INDIAN SOCIETY OF VASCULAR AND INTERVENTIONAL RADIOLOGY
ISVIR

ISVIR'25
PRECISION AND NAVIGATION
FEBRUARY
6-9
2025
KOCHI, KERALA

KERALA ISVIR
Kerala Chapter

Abstract Book

President, Indian Society of Vascular and Interventional Radiology (ISVIR)
Christian Medical College Hospital
Vellore, India.

Dear Colleagues and Partners,

In Trivandrum, the Indian Society of Vascular Interventional Radiology (ISVIR) was founded in 1997. It is encouraging to note that the Kerala chapter has been given the mandate of organizing the 25th annual conference of ISVIR.

The combined efforts of numerous members have allowed the society to reach numerous milestones. In parallel, a number of Indian medical institutions are offering formal IR training courses. Having our own journal JCIR with its worldwide presence, we are both modest and proud. Our learning has been enhanced by our partnerships with numerous international IR societies.

The participants' academic enrichment serves as a barometer for evaluating the effectiveness of a medical conference. I see a committed organising team, excellent academic material, a wonderful ambience, and involvement from the industry. The rich cultural heritage of Kochi and the surrounding areas would add to the significance of this historic occasion. I expect a sizable number of delegates from India and abroad.

I wish the organising team every success. Here, on behalf of the central committee, express full trust and support.

Secretary, Indian Society of Vascular and Interventional Radiology (ISVIR)
Sir Ganga Ram Hospital, New Delhi, India.

Welcome to ISVIR 2025 in the beautiful city of Kochi! As we celebrate our 25th conference, the Indian Society of Vascular and Interventional Radiology is buzzing with excitement. We've hit a record with over 440 abstracts this year!

To honor everyone's amazing work, we're thrilled to present our very own abstract book. Created by ISVIR, for ISVIR, it's a testament to our vibrant community. Thank you for being here.

Let's make this event unforgettable. Welcome, everyone, to an exciting ISVIR 2025!

Organizing Chairman, for 25th Annual Conference of Indian Society of Vascular and Interventional Radiology (ISVIR 2025) Aster Medcity Kochi, Kerala, India.

Namaskaram ISVIR 🙏
"Vidya Mitram Paramam"
"Knowledge is the greatest friend"

It is our great pleasure to present this comprehensive abstract book to you. We were overwhelmed with an unprecedented response, receiving over 400 abstracts from our esteemed members. As we reviewed the submissions, I was struck by the palpable energy and enthusiasm of the authors and our scientific team. This abstract book is a testament to the collective efforts of our members, who are driving the advancement of Interventional Radiology in India.

Each contribution within these pages not only showcases good quality IR work but also reflects the authors' passion, dedication, and moments of introspection.

I am grateful for the tireless efforts of all authors, reviewers, and the scientific committee, who have made this abstract book a reality.

God bless.

Scientific Chairman,
for 25th Annual Conference of
Indian Society of Vascular and
Interventional Radiology
(ISVIR 2025)
ILBS, New Delhi

Greetings and welcome to ISVIR 2025 in Kochi, as we proudly celebrate the 25th conference of the Indian Society of Vascular and Interventional Radiology. This year, we've achieved a milestone with over 440 abstracts submitted. To acknowledge this impressive participation, we have introduced an abstract book. Crafted by ISVIR, for ISVIR, it serves as a resource for our members. This initiative highlights our dedication to recognizing and disseminating valuable research.

We thank you for your contributions and warmly welcome you to this landmark event.

Scientific Chairman,
for 25th Annual Conference of
Indian Society of Vascular and
Interventional Radiology
(ISVIR 2025)
Pulse Clinic, Nagpur

Hey there, and welcome to ISVIR 2025 in the amazing city of Kochi! Celebrating our 25th conference, we're super excited because we received over 440 abstracts—our best yet!

To celebrate, we've put together an abstract book, made by ISVIR, for ISVIR. It's all about recognizing everyone's hard work. We're so glad you're here to join us for this milestone. This initiative underscores our commitment to advancing the field and recognizing the hard work of our community.

Thanks for coming, and here's to an awesome event! Welcome, everyone, to an unforgettable ISVIR 2025!

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ORGANISING COMMITTEE ISVIR 2025

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Joint Secretary

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Executive Committee Member

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Chief Editor of JCIR

Chairman ISVIR- REF

Immediate Past President

Immediate Past Secretary

President, Kerala Chapter ISVIR

Secretary, Kerala Chapter ISVIR

Organizing Chairman, ISVIR 2025

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Dr Jeyaseelan

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Dr Lenon D Souza

Urogynaecology Interventions

Dr Shakthi Parvathy

ETERNAL SPIRIT: THE LEGACY OF ISVIR

As we prepare to gather for the 25th National Conference of ISVIR, let us embark on an emotional journey through the heart of our beloved society. This is not just a celebration; it is a poignant reflection on the pioneers whose vision and dedication laid the foundation for our community. In the early days, they faced countless challenges, yet their unwavering commitment ignited a spark that would ultimately illuminate the path for generations to come.

As we look around at the faces—some aged with the wisdom of experience, others vibrant with youthful enthusiasm—we are reminded that while time may etch lines upon our skin, the spirit of ISVIR remains eternally young. Each laugh, each shared memory, and every heartfelt conversation is a testament to the bonds we have forged.

Together, we honor those who dreamed of a thriving society and those who tirelessly nurtured its growth. Let us cherish the moments that shaped us, the sacrifices made, and the triumphs celebrated. As we stand on the shoulders of giants, we find strength in our collective journey, knowing that the essence of ISVIR is not bound by age but is a living, breathing force that unites us all.

JOURNEY TO ISVIR 2025

"BRIGHT AND EARLY: WHERE IDEAS SPARK BEFORE THE SUN RISES!"

"UNITING MINDS IN LISBON: COLLABORATING FOR A BRIGHTER FUTURE AT CIRSE 2024!"

"BEHIND THE SCENES MAGIC: THE DEDICATED TEAM POWERING ISVIR 2025 TO SUCCESS!"

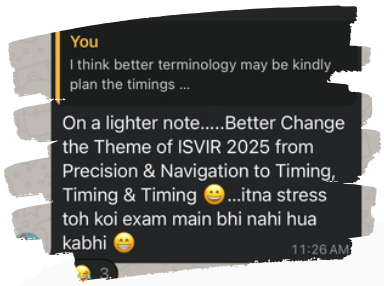
"COLLABORATIVE INSIGHTS: THE KERALA CHAPTER OF ISVIR SHAPING THE PATH TO SUCCESS!"

"GLOBAL CONNECTIONS: ISVIR AND CIRSE 2024!"

"EARLY RISER AND TASKMASTER: DR. SANDEEP VAIDYA LEADS THE CHARGE AT DAWN!"

"UNVEILING THE FUTURE: THE VIBRANT LAUNCH OF THE ISVIR 2025 LOGO!"

""PRECISION IN MOTION: KEEPING THE CLOCK IN CHECK AT ISVIR 2025!"



"FUELING IDEAS: WHERE GREAT MINDS DINE AND DISCOVER!"

“ISVIR 2024: A JOURNEY BACK TO JAIPUR”

"CRAFTING VISIONS: THE EDITOR BEHIND THE PAGES AT ISVIR 2023"

"THE TESTING GROUND“

JCIR
(JOURNAL OF CLINICAL AND INTERVENTIONAL RADIOLOGY)

EDITORIAL BOARD

Journal of Clinical Interventional Radiology (JCIR) is the official journal of the Indian Society of Vascular and Interventional Radiology (ISVIR). It is now 8 years old and is indexed with DOAJ, Embase, EBSCO and ProQuest. The journal is published three times every year in April, August and December and also has an online version. The journal had its glorious inception with Dr Shyamkumar N Keshava as its Editor-in-Chief and Dr Sanjeeva Kalva as its International Editor. In 2024, Dr Shyam handed over the baton to Dr Naveen Kalra. Many well renowned interventional radiologists (IRs) from across the globe are on the journal's editorial board.

The journal publishes editorials, original articles, review articles, case reports and case series, short communications and conference abstracts. There is a robust review process which ensures that only high quality manuscripts are finally accepted. The aim of the journal is to disseminate knowledge which can positively impact patient care and treatment outcomes. The journal content reiterates the importance of longitudinal care in interventional radiology and the clinical aspect of interventional radiology as is reflected in the title of the journal. This is the most important pillar for the sub-speciality and is imperative for its future growth.

The future journey of the journal will depend on how we as esteemed members of the ISVIR want to see ourselves on the global platform. The journal is the reflection of our work and of the status of the sub-speciality in our region. We should all be the ambassadors for the propagation of IR research and academia which will definitely catapult JCIR to be the top notch journal in interventional radiology.

Prof Naveen Kalra

(Editor in Chief)

Dr Sanjeeva Kalva

(International Editor)

Dr Shyamkumar N Keshava

(Founding Editor)

Dr Mathew Cherian

(Associate Editor)

SCAN AND READ

Digital Subtraction Neuroangiography: What a Resident Should Know

Sankar Neelakantan[1] Rohan Samant[2] Jagadish Prasad[1] Bhavana Nagabhushana Reddy[1] Prashanth Reddy[1] Bharath B. Das[1] Sanjaya Viswamitra[1] Dilip Mohan[3]

[1]Department of Radiology, Sri Sathya Sai Institute of Higher Medical Sciences, Bangalore, Karnataka, India
[2]Department of Radiology, UAMS, Arkansas, Texas, United States
[3]Department of Neruosurgery, Sri Sathya Sai Institute of Higher Medical Sciences, Bangalore, Karnataka, India

Address for correspondence Sankar Neelakantan, MD, Department of Radiology, Sri Sathya Sai Institute of Higher Medical Sciences, EPIP area, Whitefield, Bangalore 560066, Karnataka, India (e-mail: dr.sankar@live.com).

J Clin Interv Radiol ISVIR 2019;3:44–52

MOST DOWNLOADED STUDY OF JCIR
SCAN AND READ

Angiographic Analysis of the Anatomical Variants in Genicular Artery Embolization

Sandeep Bagla[1] Rachel Piechowiak[2] Abin Sajan[3] Julie Orlando[2] Diego A. Hipolito Canario [4], Ari Isaacson[4]

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[2]Fauquier Hospital, Warrenton, Virginia, United States
[3]NYU Winthrop Hospital, Department of Surgery, St. Mineola, New York, United States
[4]University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, North Carolina, United States

Address for correspondence Sandeep Bagla, MD, Vascular Interventional Partners - NOVA, 2755 Hartland Road, Falls Church, VA 22043, United States (e-mail: sandeep.bagla@gmail.com).

J Clin Interv Radiol ISVIR 2021;6:18–22.

MOST CITED STUDY OF JCIR
SCAN AND READ

ISVIR 2025 INTERNATIONAL ORATION

We are pleased to announce that the International Orator for the 25th National Conference of the Indian Society of Vascular and Interventional Radiology (ISVIR) has been selected. This prestigious award recognizes extraordinary contributions to the field, dedicated service to society, and distinguished career achievements in interventional radiology.

The honoree will deliver the International Oration during ISVIR's Annual Scientific Meeting, scheduled for Thursday, February 6, at the Grand Hyatt, Kochi.

ISVIR extends its heartfelt congratulations to the International Orator for this significant honor and looks forward to their inspiring lecture at the conference.

Dr. Sundeep Punamiya
Tan Tock Seng Hospital
Singapore

ISVIR 2025 NATIONAL ORATION

We are honored to announce the recipient of the National Award at the upcoming 25th National Conference of the Indian Society of Vascular and Interventional Radiology (ISVIR). This esteemed accolade is presented in recognition of exceptional contributions to the field, unwavering commitment to societal advancement, and notable achievements in the realm of interventional radiology.

The awardee will be formally recognized during ISVIR's Annual Scientific Meeting, which will take place on Thursday, February 6, at the Grand Hyatt in Kochi.

ISVIR extends its warmest congratulations to the National Award recipient for this well-deserved distinction and eagerly anticipates their valuable insights during the conference.

Dr Indusekhar Subbanna
HCG Cancer Centre
Bangalore, India

ISVIR 2025 GOLD MEDAL AWARD

The Indian Society of Vascular and Interventional Radiology (ISVIR) is proud to announce the recipient of the prestigious ISVIR Gold Medal for 2025. This esteemed award is presented to a member who has significantly contributed to the advancement of interventional radiology, elevating the quality of medicine and patient care in India. The Gold Medal, ISVIR's highest honor, recognizes distinguished and extraordinary service to both the society and the field. The award presentation will take place on Thursday, February 6. Congratulations to our 2025 Gold Medalist for their remarkable achievements!

Prof Naveen Kalra
PGIMER
Chandigarh, India

ISVIR 2025 YOUNG INVESTIGATOR AWARD

The Indian Society of Vascular and Interventional Radiology (ISVIR) is pleased to announce the winner of the 2025 ISVIR Young Investigator Award. This esteemed recognition promotes excellence in academic research among early-career members, highlighting the contributions of promising young practitioners in the field of interventional radiology. Each year, applications submitted to the selection committee are carefully evaluated to identify outstanding candidates. The award will be presented on Thursday, February 6. Congratulations to our 2025 Young Investigator Award winner for their exceptional dedication and achievements!

Dr Sreedhara B Chaluvashetty
Manipal Hospital
Bengaluru, India

ISVIR 2025 BEST PUBLICATION AWARD

The Indian Society of Vascular and Interventional Radiology (ISVIR) is delighted to announce the recipient of the 2025 Best Publication Award. This prestigious award recognizes exceptional clinical research published in our journal, highlighting manuscripts that have the potential to significantly impact the interventional radiology community today and in the future. The winning articles are selected through a thorough review process conducted by the ISVIR award committee. The award will be presented during the award ceremony on Thursday, February 6. Congratulations to our 2025 Best Publication Award winner for their outstanding contribution to the field!

Dr Yashwant Patidar
ILBS
New Delhi, India

Scan and read

ISVIR 2025 BEST FELLOW AWARD

The Indian Society of Vascular and Interventional Radiology (ISVIR) is proud to announce the recipient of the 2025 Best Trainee Award. This distinguished honor recognizes a trainee who has demonstrated exceptional skills in learning, event organization, leadership, and publication efforts. Each application is meticulously reviewed by the ISVIR award committee to ensure that the award is given to a candidate who exemplifies excellence in these areas. The award will be presented at the Award ceremony at Kochi on Thursday, 6 February 2025. Congratulations to our 2025 Best Trainee Award winner for their remarkable contributions to the field!

Dr Darshan Thummar
Sir Ganga Ram Hospital
New Delhi, India

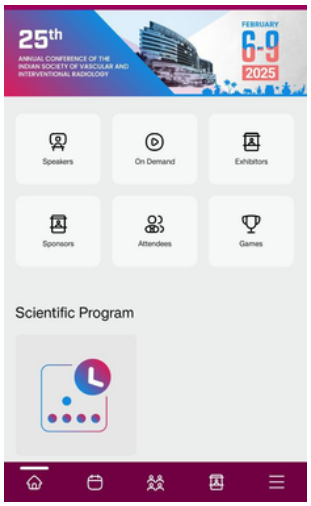
ISVIR 2025 ABSTRACT REVIEWER

- Dr Krantikumar Rathod
- Dr Karthikeyan Damodharan
- Dr Rochan Pant
- Dr Aman Kumar
- Dr Rengarajan Rajagopal
- Dr Virender Singh Sheorain
- Dr Yashwant Patidar
- Dr Jawahar Rathod
- Dr Pankaj Mehta
- Dr Sanjeev Kumar
- Dr Ujjwal Gorsi
- Dr Ganesh Deogankar
- Dr Shivananda G
- Dr Anirudha Kulkarni
- Dr MC Uttappa
- Dr Manish Yadav
- Dr Shyamkumar N Keshava
- Dr Vlmal Someshwar
- Dr Shuvro Roy-Choudhury
- Dr Chander Mohan

ISVIR 2025 ABSTRACT REVIEWER

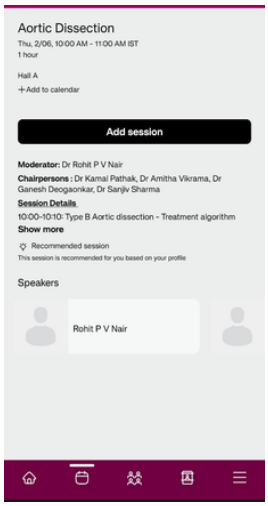
- Dr Lijesh Kumar
- Dr Chinmay Kulkarni
- Dr Pushpinder SIngh Khera
- Dr Deepashree Thiruchunapalli
- Dr Nitin Shetty
- Dr Suyash Kulkarni
- Dr Sreedhara BC
- Dr Arun Gupta
- Dr Dheeraj Kumar Tiwari
- Dr Ajit Yadav
- Dr Reddi Prasad Yadavali
- Dr Abhishek Chauhan
- Dr VIkas Bhatia
- Dr Chirag Jain
- Dr Manisha Joshi
- Dr Suresh Giragani
- Prof Naveen Kalra
- Prof Madhusudan KS
- Dr Gaurav Gangwani

ISVIR 2025 APP AND SCIENTIFIC PROGRAM



ANDROID APP STORE

APPLE APP STORE



Download the ISVIR 2025 - Qeni App

Explore the Detailed Scientific Program: Discover cutting-edge sessions and presentations tailored just for you.

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Create and Update Your Profile: Showcase your expertise and connect with like-minded professionals in your field.

Engage with Speakers and Industry Exhibitors: Get insights directly from leaders and innovators, and have your questions answered!

Participate in Live Q&A and Polling: Join interactive discussions and share your opinions in real-time!

Network with Fellow Delegates: Expand your connections and collaborate with peers from around the globe!

Don't miss out on this unique opportunity to enhance your ISVIR 2025 experience.

SCAN QR CODE FOR SCIENTIFIC PROGRAM

ISVIR 2025 QUIZ OF THE DAY

Let the Game Begin!

1. **Platform & Format:**
   - Participate on the **AhaSlides** platform.
   - Engage in a **Fastest Finger** format for added excitement.

2. **Quiz Schedule:**
   - Available daily from **9 AM to 5 PM** on **6th, 7th, and 8th February**.
   - Answer **20 MCQ-type questions** each day.

3. **Question Types:**
   - **Choose the Best Answer**: Test your knowledge with multiple-choice questions.
   - **Match the Following**: Challenge your skills with matching questions.

4. **Participation Requirement:**
   - Enter your I**SVIR 2025 registration number** to start the quiz.

5. **Exciting Rewards:**
   - Top **participant** with the highest scores will be announced the next day.
   - **Exciting prize** await the winners!

Good luck and enjoy the challenge! 🌟

6 FEB

7 FEB

8 FEB

ORAL PRESENTATIONS

Abstract ID – 1.1.001

Navigating New Routes - Trans Collateral Fibroid Embolisation

Muthugounder Athiyappan, Karthikeyan ;[1]
[1]*Dharan Hospital , Department of Inteventional Radiology , Salem , Tamilnadu , India*

Clinical History

A 48-year-old female with diabetes mellitus and coronary artery disease (post-LAD stenting one month prior) presented with severe menorrhagia. Her haemoglobin dropped from 12 g/dL to 8 g/dL. Imaging revealed a 3.8 cm intramural fibroid (FIGO 2) with submucosal extension and endometrial cavity clots. Since she was on dual antiplatelet therapy (Ticagrelor and Aspirin), surgical management of fibroid was not possible. She was planned for uterine fibroid embolization (UFE) after multidisciplinary discussion . Endometrial sampling ruled out malignancy.

Treatment and Outcomes

Angiography revealed atrophic uterine arteries without fibroid vascular supply. Dyna-CT confirmed no uterine artery contribution. Instead, the infrarenal aortic angiogram demonstrated ovarian artery supply to the fibroid. The ovarian artery's small caliber precluded direct cannulation. Right iliac angiography revealed an ilio-lumbar collateral artery feeding the distal ovarian artery and supplying the fibroid. This collateral pathway was successfully cannulated with a microcatheter. Fibroid embolization was performed using 300–500 µm polyvinyl alcohol (PVA) particles. Post-procedurally, menorrhagia resolved, and haemoglobin stabilised, confirming treatment efficacy.

Discussion

Atrophic uterine arteries in middle aged patients can lead to fibroid vascularization from atypical sources, such as the ovarian artery. Preprocedural CT angiography aids in identifying atypical vascular supply. When ovarian artery cannulation is unfeasible, collateral pathways, like ilio-lumbar arteries, can be explored. Dyna-CT plays a pivotal role in confirming vascular supply and avoiding non-target embolization.

Take-Home Points

Collateral pathways can effectively facilitate UFE when uterine artery supply is absent. Intra-procedural Dyna-CT is critical for accurate vascular mapping and complication prevention.

Abstract ID – 1.1.002

Provocative Angiography in Obscure Small Intestinal Bleed with SMA Occlusion: A Trans-Collateral Avant-Garde Management with Power-of-Tower Technique in Visceral Intervention

Ramaswamy, Praveen Kesav;[1]
[1]*Sree Gokulam Medical College and Research Foundation, Department of Radiodiagnosis and Interventional Radiology, Thiruvananthapuram, Kerala, India*

Clinical History
An 83-year-old male presented with multiple episodes of melena and hypotension. Emergency colonoscopy, upper gastro-intestinal (GI) endoscopy and CT Angiogram were non-contributory except for an ostio-proximal occlusion of superior mesenteric artery (SMA). Emergency abdominal DSA was done.

Treatment
Celiac angiogram showed occluded ostio-proximal SMA, recanalised through peripancreatic collaterals with no bleeding source. Provocative angiography was considered but if the bleeder cannot be reached through the collaterals, it could be life threatening due to uncontrolled bleeding or may cause bowel ischemia due to proximal/non-target embolisation. The “Power-of-Tower” technique with a 6Fr 65cm Sheath in the Celiac artery and a 4Fr catheter through the pancreatico-duodenal collaterals to recanalized SMA. Step-up provocative angiography done with two injections of 100 micrograms of nitrogylycerine followed by 5000 IU of heparin. Active extravasation was identified from a mid-jejunal branch. Superselective angiogram of the vasa recta with 1.98Fr 150cm microcatheter revealed submucosal collateral. Staggered embolisation was done with 350-500 micron PVA particles, followed by coil embolisation. No further episodes of bleeding or bowel ischemia.

Discussion
Provocative angiography is a double-edged sword. Ascertaining accessibility for subsequent embolisation is essential to ensure positive procedural outcomes. Power-of-Tower technique helps in stable access in difficult anatomies. Understanding the hardwares, techniques, pre-planning on CT Angiogram and anticipating difficulties proved to be the game-changer.

Take-home
Any GI bleed patient with normal CT angiogram must be considered as a potential candidate for provocative DSA.
Power-of-Tower technique increases the chances of negotiating the vascular tortuosities and still provide a stable access.

Abstract ID – 1.1.003

Mesenteric Venous Thrombosis with Venous GI bleed: The "Gordian Knot" Treated with Emergency Trans-Splenic Balloon Assisted TIPSS and TransTIPSS Suction Thrombectomy

Ramaswamy, Praveen Kesav;[1] K, Kavirajan; Gowda, Sujith S; Kalam, Amjada A;
[1]Sree Gokulam Medical College and Research Foundation, Department of Radiodiagnosis and Interventinoal Radiology, Thiruvananthapuram, Kerala, India
Sree Gokulam Medical College and Research Foundation, Department of Radiodiagnosis and Interventinoal Radiology, Thiruvananthapuram, Kerala, India

Clinical History
A 47-year-old gentleman presented massive bleeding per rectum. Emergency colonoscopy and upper GI endoscopy showed no bleeding source. Emergency CT Angiogram showed porto-mesenteric venous thrombosis extending into superior mesenteric vein (SMV). Bleeding resolved with conservative management over 3 days. Massive hematemesis on day 5 and underwent emergency esophageal variceal banding.

Treatment
Considering the recurrent massive venous GI bleed secondary to acute mesenteric venous thrombosis, an emergency TransTIPSS suction thrombectomy was planned. Small calibre thrombosed right portal vein access failed through transjugular route. Balloon inflated in right portal vein through transplenic access and targeted via transjugular route to gain portal venous entry. TransTIPSS suction thrombectomy done. Thrombolytics were contraindicated due to recent massive GI bleeding. TIPSS stenting extending into the SMV done. No further bleeding episodes.

Discussion
Management of acute mesenteric venous thrombosis is often tricky and when accompanied with venous GI bleeding it is a Gordian Knot, as we can neither start the patient on anticoagulation/thrombolysis nor treat the venous bleed without recanalization of mesenteric veins. TIPSS with mechanical thrombectomy must be considered for the emergent management of these patients. Additional access like splenic vein or ileocolic vein or direct SMV access must be considered to assist in TIPSS.

Take-home
Venous GI bleed in mesenteric venous thrombosis is difficult to manage due to thrombosis and bleeding happening simultaneously. Hence, thrombectomy is a safer option.
Trans-splenic portal vein balloon placement to assist in portal venous access during TIPSS should be considered in difficult to access portal veins.

Abstract ID – 1.1.004

A milestone in Interventional Oncology: India's first cryoablation of a large chest wall-based metastatic lesion with seven cryoprobes in a difficult anatomic location

Garg, Shreya;[1] RoyChoudhury, Shuvro; Paulraj, Sabharisundaravel; Khandelwal, Rohit; Gupta, Anadi
[1]*NH Rabindranath Tagore International Institute of Cardiac Sciences, Department of Interventional Radiology and Endovascular Therapies, Kolkata, West Bengal, India*
NH Rabindranath Tagore International Institute of Cardiac Sciences, Department of Interventional Radiology and Endovascular Therapies, Kolkata, West Bengal, India

Clinical History:
A 23-year-old female with high-grade osteosarcoma of humerus (post-surgery and chemotherapy) presented with oligometastatic lung disease. Since 2022, chest wall disease at various sites was managed using multiple ablations alongside systemic chemotherapy, achieving good disease control. In October 2024, she presented with a large tumor (8.4 × 7.6 × 5.2 cm) involving left lung, pleura, diaphragm, pericardium, abutting gastric wall and left ventricle. Multidisciplinary discussion recommended local ablation with palliative intent, given the absence of metastatic disease elsewhere.

Treatment and Outcomes:
Microwave ablation was initially planned but abandoned due to gastric abutment which could not be hydrodissected. Intratumoral alcohol injection was given instead. This followed embolization of feeding arteries to reduce target volume. 4-week follow-up showed mildly reduced tumor size and separation from the gastric fundus. CT-guided cryoablation was performed under general anaesthesia using ICEfx Cryoablation System (Boston Scientific). Seven cryoprobes (four 14G Ice Force and three 17G Ice Rod) were placed. 3 ablation cycles were performed (2nd after pullback and 3rd after repositioning). Post-procedure CECT confirmed comprehensive coverage by overlapping ice-balls, with only a 5 mm viable margin near the aorta and pericardium. The patient tolerated the procedure well, was extubated on-table, and discharged the next day.

Discussion:
This case demonstrates feasibility of cryoablation for large chest wall tumors in complex locations. The use of seven simultaneous cryoablation needles is particularly noteworthy, representing one of the first such procedures conducted in the country. Sequential embolization and cryoablation offer effective local control, potentially revolutionizing oncological interventions.

Abstract ID – 1.1.005

Successful Endovascular Closure of Congenital Intrahepatic Portosystemic Shunt using Novel Konar MFO device

Shetty, Adithya;[1] Tiwari Dheeraj
[1]*Narayana Health City*
Narayana Health City

Case Presentation: 3 year old male child presented with rapid breathing and cyanosis for a duration of 2 months. On clinical examination there was clubbing, cyanosis with room air saturation of 82%. Blood serum ammonia was elevated at 60 micromol/L. Imaging with ultrasound abdomen showed an anechoic tubular communication between the portal vein and IVC, with doppler showing turbulent flow through the shunt. Diagnosis of congenital intrahepatic portosystemic shunt was made and plan was to do endovascular closure after assessment of portosystemic pressure gradient and post balloon occlusion portal pressure. Right IJV and right CFV using 7F sheath was taken. Using the right IJV access Tyshak compliant balloon was inflated for balloon occlusion of the shunt. Portal radicles showed opacification despite balloon occlusion. Portal pressure post occlusion- 20 mm Portosystemic gradient- 14 mm. Using the IJV access 10-8 Konar MFO was deployed using 6F delivery sheath and post deployment venogram showed complete occlusion of the shunt. 10mm disc was positioned along the IVC side of the defect and 8mm along the portal side. 3 month follow up showed significant clinical improvement with saturation in room air improving to 94% and normalisation of serum ammonia levels.

Discussion: The clinical manifestations of CPSS are varied detection and prompt management are of utmost importance to prevent complications. Endovascular closure is preferred for intrahepatic shunts. Konar MFO is a self expandable low profile double disc device that has soft woven mesh and flexible waist that provides high conformability.

Abstract ID – 1.1.006

Percutaneous and endoscopic rendezvous for post traumatic disconnected pancreatic duct syndrome

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Aryavart Hospital, Dept of Gastroenterology, Meerut, UP, India

A twelve-year boy sustained a pancreatic injury after a blunt bicycle handle injury to upper abdomen. Ultrasound showed a large collection in lesser sac with pancreatic duct (PD) transection at neck region and prominent pancreatic duct distal to the transection. Collection was drained by a 10 Fr Malecot catheter. ERCP failed to cross wire across the PD transection.

Percutaneous endoscopic rendezvous procedure to bridge pancreatic duct gap was planned. Pancreatic duct was accessed by Chiba needle 22 Gz in distal body and 5 French sheath placed. Pancreatogram showed a gap of 8mm at neck of pancreas.

For the rendezvous both the percutaneous and ERCP wires with catheter was taken up to into the collection. The Malecot catheter in collection was exchanged for an 8 Fr sheath. A snare was introduced through the sheath into the collection and both percutaneous and ERCP wires with the MPA catheter were snared out from the external end of the sheath. Percutaneous wire was removed leaving only MPA catheter and the ERCP wire was looped back into the external end of this MPA catheter. The whole loop was straightened by pulling the wire from the puncture point and the wire could bridge the PD transection. A plastic stent 7Fr was placed over the wire through the ERCP route bridging the disconnected pancreatic duct.

Rendezvous procedures with combined interventional radiology and endoscopy can be done in Disconnected pancreatic duct syndrome to avoid surgery and to bring out patients from a morbid state.

Abstract ID – 1.2.001

Bridging post cholecystectomy CBD transections through a novel drain loop technique

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Background
Post-cholecystectomy complete transection of the common bile duct (CBD) is usually managed by ERCP as the first line of management or by percutaneous negotiation of wire across the duct injury. In cases of failure of the above methods due to transected duct ends, a novel technique through the surgical drainage tube was used in appropriate situations to bridge the wire across the transected ends of CBD.

Innovation
The technique was used in eight patients and is based on a controlled fistula tract from the proximal cut end of CBD into the surgical drain and from the rain into the distal CBD through a curved tract.

Method
1. Passage of a hydrophilic guide wire and catheter from percutaneous route into the surgical drainage tube bringing it out of the external end of the drain.
2. Percutaneous wire removed.
3. Passage of a second hydrophilic wire through a catheter from the external end of the surgical drainage tube into the distal CBD and into the duodenum. Catheter removed leaving only wire.
4. The distal CBD wire looped back into the percutaneously introduced catheter coming out of the drain.
5. Percutaneous wire pulled to straighten the loop of wire in drainage tube with straight wire across transection followed by catheter placement.

Application - Post cholecystectomy CBD transection with failed ERCP

How it changed practice-
The technique enabled us to negotiate the cut and distracted ends of CBD in post cholecystectomy patients through percutaneous route after failed ERCP and routine percutaneous attempts.

Abstract ID – 1.2.002

Safe and effective deployment of Lumen Apposing Metal Stents by fluoroscopic guidance alone

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Background: Lumen-apposing metal stents (LAMS) have been developed to facilitate the effective internal drainage of collections by providing a wide-bore passage. These stents are uniquely designed with wide anchoring flanges, a shorter length of 1 cm, and a larger inner diameter. The extensive luminal diameter enables the efficient drainage of both solid and semi-solid debris and serves as a channel for endoscopic procedures.

Innovation: Our experience highlights unique ways of using such a large-bore drainage device as a tool in the armamentarium. The use of LAMS has always been associated with endoscopically assisted intervention. Its deployment requires fluoroscopic monitoring and is assisted by direct vision through the endoscope. However, the controlled deployment of LAMS makes it an ideal device for interventional radiology (IR) to use under fluoroscopic guidance alone.

Application: Possible primary IR-guided uses of LAMS would include:
Percutaneous cholecysto-duodenostomy in patients not fit for surgery or anesthesia
Internal drainage of pancreatic necrosis into the necrotic area
Creating non-surgical gut-gut anastomoses
Creating percutaneous conduits, allowing access for further endoscopic intervention
Drainage of complex collections that are otherwise not drainable by the endoscopist
Use as a diversion technique, e.g., cecostomy

How It Changed Practice: It confirmed the safe, effective, and feasible deployment of a lumen-apposing stent with fluoroscopic guidance alone, thereby opening up future possibilities for its use in other clinical situations.

Abstract ID – 1.2.003

Transjugular Endovascular creation of a Mesocaval Shunt in patients with EHPVO

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Background: Over the years, innovations in the management of portal hypertension and variceal bleeding secondary to extrahepatic portal venous obstruction (EHPVO) have substantially reduced mortality rates. In cases where initial pharmacologic and endoscopic treatments fail, patients need to be considered for percutaneous embolization, surgical shunt creation, and/or liver transplantation.

Innovation: Our experience highlights a primary endovascular approach using transabdominal ultrasound (USG) and fluoroscopic guidance for the creation of a mesocaval shunt. This procedure has not been reported in the literature. Using transabdominal ultrasound guidance and fluoroscopy, the superior mesenteric vein (SMV) is accessed via the inferior vena cava. Once accessed, a covered stent is placed across the two structures, allowing for decompression of the portal circulation.

Application: Creating mesocaval shunts through percutaneous and endovascular methods provides an alternative for patients with chronic EHPVO who are unable to undergo surgical shunting or who have failed previous surgeries and are not suitable candidates for portal vein recanalization.

How It Changed Practice: While surgical shunts are a legitimate option, patients who do not meet the criteria for surgical intervention are often left with limited alternatives. Several techniques for mesocaval shunts have been outlined in case reports, utilizing both percutaneous transabdominal and transvenous approaches, with or without the use of intravascular ultrasound (IVUS). This case series describes the successful creation of an endovascular mesocaval shunt using a simpler and more easily reproducible treatment strategy for effective management of variceal bleeding in patients with EHPVO.

Abstract ID – 1.2.004

Indigenously designed and fabricated auxetic vascular stents using the laser powder-bed fusion technique: My journey from scratch to stents!!!

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Meena

Background
Self-expanding stents are more difficult to position because of foreshortening. It is the property of stents decreasing in length during expansion that can induce vascular injury, resulting in restenosis of arteries. The deviation of deployment can lead to uncovered lesions, resulting in a high risk of thrombosis complications.
The development of an auxetic vascular stent emerged as a fusion of innovation and necessity in biomedical engineering. This journey was inspired by the urgent need for improved vascular stents that could address the limitations of conventional designs, such as poor flexibility, limited radial strength, and susceptibility to restenosis. Auxetic materials, known for their unique property of a negative Poisson's ratio, presented an intriguing opportunity to enhance stent performance.
Innovation
We (AIIMS Delhi) along with IIT Delhi have indigenously designed and fabricated auxetic vascular stents using the laser powder-bed fusion technique. We had 3D printed the stents, which had undergone biomechanical testing at IIT Delhi

Application
Auxetic vascular stents promise to transform IR by addressing the limitations of conventional stents. Their ability to conform dynamically to the vascular environment and maintain structural integrity under diverse physiological conditions could significantly enhance patient outcomes, reducing the need for repeat interventions and improving long-term vessel patency.
How it changed the practice
Auxetic materials, with their distinctive deformation behaviour, offer a solution to many of these issues. When applied to stent design, auxetic structures provide several benefits:
1. Enhanced flexibility and conformability.
2. Improved radial strength and expansion
3. Reduced Risk of Restenosis

Abstract ID – 1.2.005

Bridging post cholecystectomy CBD transections through a novel drain loop technique

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Background
Post-cholecystectomy complete transection of the common bile duct (CBD) is usually managed by ERCP as the first line of management or by percutaneous negotiation of wire across the duct injury. In cases of failure of the above methods due to transected duct ends, a novel technique through the surgical drainage tube was used in appropriate situations to bridge the wire across the transected ends of CBD.

Innovation
The technique was used in eight patients and is based on a controlled fistula tract from the proximal cut end of CBD into the surgical drain and from the rain into the distal CBD through a curved tract.

Method
1. Passage of a hydrophilic guide wire and catheter from percutaneous route into the surgical drainage tube bringing it out of the external end of the drain.
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5. Percutaneous wire pulled to straighten the loop of wire in drainage tube with straight wire across transection followed by catheter placement.

Application - Post cholecystectomy CBD transection with failed ERCP

How it changed practice-
The technique enabled us to negotiate the cut and distracted ends of CBD in post cholecystectomy patients through percutaneous route after failed ERCP and routine percutaneous attempts.

Abstract ID – 1.2.006

Alteplase-Based Direct Percutaneous Thrombolysis: A Cost-Effective Approach for Salvaging Thrombosed Arteriovenous Fistulas Without Vascular Stenosis

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Background: Thrombosed arteriovenous fistulas (AVFs) are a common complication in hemodialysis patients, traditionally treated with costly and invasive techniques like thrombectomy or pharmaco-mechanical thrombolysis. This study introduces Direct Percutaneous Thrombolysis (DPT), a novel, ultrasound-guided, minimally invasive approach using alteplase and a 20–22-gauge spinal needle.

Innovation: DPT directly targets thrombi for thrombolysis and incorporates balloon angioplasty only if vascular stenosis is identified, offering a simpler, cost-effective alternative to conventional methods.

Application: Twenty patients with thrombosed AVFs were studied. Group 1 (n=8) had AVFs without venous stenosis and underwent DPT alone, while Group 2 (n=12) had stenosis requiring DPT followed by balloon angioplasty. In Group 1, 75% of AVFs were successfully salvaged with DPT alone, with angioplasty needed in two cases due to chronic clots. In Group 2, DPT with angioplasty achieved a success rate of 91.7%. Only minor complications, including prolonged oozing and local hematoma, occurred in two cases.

How It Changed Practice: This technique demonstrated high success rates, minimal invasiveness, and no major complications. It offers a safe, effective, and affordable option for AVF thrombosis management, especially in patients without stenosis.

Conclusion: DPT with alteplase is a novel, cost-effective, and safe method for salvaging thrombosed AVFs, particularly in stenosis-free cases. When combined with balloon angioplasty, it optimizes outcomes for patients with stenosis. Its simplicity and low complication rate make it a promising alternative for managing AVF thrombosis.

Abstract ID – 1.3.001

Cryoablation as an Effective Treatment for Extra-Abdominal Desmoid Tumors: A Single-Institution Case Series

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Desmoid tumors are locally invasive mesenchymal neoplasms of fibroblastic origin. This case series includes five patients with desmoid tumors located in various sites: chest wall (1), thigh (2), upper arm (1), and anterior abdominal wall (1). One patient was undergoing systemic therapy at the time of treatment. All patients presented with visible masses and severe pain.

Cryoablation was performed using the CryoCare CS Endocare 2.4 mm right-angled V probe in multiple sessions. A double freeze protocol was utilized, consisting of two 10-minute freezing cycles interspersed with two 10-minute passive thawing periods. The cryoprobe placement was guided by ultrasonography (USG), followed by non-contrast CT (NCCT) imaging to delineate the probe's relationship with surrounding critical structures. Intermittent NCCT imaging was employed to monitor ice ball formation, and final CT imaging was obtained post-procedure after cryoprobe retrieval. No periprocedural complications were observed.

Follow-up MRI imaging at three months done. Complete pain relief was reported in all five cases, along with tumor volume reductions: 70% in the chest wall tumor, 50% in three other tumors, and 20% in one thigh tumor patient.
Cryoablation is a safe and effective treatment modality for extra-abdominal desmoid tumors, providing significant symptomatic relief and notable tumor volume reduction.

Abstract ID – 1.3.002

Prediction of tumour response via a pre-treatment MRI radiomics-based nomogram in HCC treated with TACE

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TACE has become an essential therapy for patients with intermediate-advanced liver cancer. However, the therapeutic outcome of TACE varies greatly even for patients with the same clinicopathologic features due to highly heterogeneous behaviour of tumour cells. The majority of imaging findings reported from radiologic studies involve descriptive or qualitative features, which results in significant interobserver variability. MRI-based radiomics is an emerging tool in oncologic research that can establish correlation with clinical outcomes.

To develop an MRI-based radiomics nomogram (rad-score) that can estimate post-TACE recurrence and survival in patients with intermediate-advanced HCC.

Inclusion criteria
Pathological diagnosis of HCC
MRI examination within 4 weeks before TACE
Follow up for more than 3 months after TACE
No other therapies received

Exclusion criteria
Lack of MRI or poor image quality
Follow up time less than 3 months of TACE
History of other therapies received
All MRI scans were performed in GE Discovery MR 750 w 3T scanner (GE Medical systems, Milwaukee, WI).
Radiomic features were extracted from T2-weighted and T1 weighted pre-TACE images and rad scores were calculated using Syngo via Frontier software.
Pre-treatment T1/T2 MR signals can be used to differentiate between TACE responders and non TACE responders.
It is particularly important to accurately assess the tumour response before TACE as it helps in further management of HCC. Though Radiomics is in early stage of development, it is a novel method to extract potentially important data from clinical imaging and predicting TR. Thus Radiomics helps in providing more personalised management of HCC.

Abstract ID – 1.3.003

Dose response relationship in Y90 based SIRT for HCC beyond Milan criteria

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Purpose
Liver transplantation (LT) remains the gold standard treatment for cirrhotic patients with early-stage, unresectable hepatocellular carcinoma (HCC). The Milan criteria guide LT candidate selection, but their restrictiveness raises concerns. Patients beyond these criteria may undergo locoregional therapies (LRT), such as selective internal radiation therapy (SIRT), for downstaging or palliation. SIRT delivers Yttrium-90 microspheres intra-arterially, with efficacy dependent on adequate radiation for tumor necrosis. This study assessed voxel-based dosimetry for quantifying actual absorbed doses (aAD) in SIRT and evaluating dose-response effects.
Materials & Methods
This single-institution prospective analysis included 29 HCC patients beyond Milan criteria treated with resin microsphere SIRT. Theoretical absorbed dose (tAD) was calculated using the partition model, while actual absorbed dose (aAD) was derived from Y-90 PET/CT-based voxel dosimetry. Dose-volume histograms (DVH) were generated, and radiological response was assessed using modified Response Evaluation Criteria in Solid Tumors (mRECIST).
Results
Thirty-seven tumors in 29 patients were analyzed. Mean tumor-absorbed doses and percentages of tumor volume receiving ≥100, 150, 200, 250, and 300 Gy were calculated. tAD and aAD showed significant correlation ($p<0.05$). Objective response rate was 85.3%. Tumors with mean absorbed doses ≥200 Gy demonstrated higher complete response rates ($p<0.05$). DVH analysis identified V150, D50, and D70 as benchmarks for achieving complete response, in addition to mean tumor dose.
Conclusion
Higher 3D voxel-based tumor-absorbed doses correlate with better complete response rates. Dose-volume histograms post-SIRT could improve evaluative dosimetry in HCC patients.

Abstract ID – 1.3.004

Efficacy of FAPI PET in detecting and characterizing liver lesions by comparing with liver biopsy Histopathological results : A comprehensive evaluation of Sensitivity, Specificity and Positive predictive value.

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Aim : This study aims to evaluate the sensitivity, specificity, and predictive value of FAPI PET in assessing liver lesions.

Materials and Methods : This retrospective study assessed the predictive value of FAPI PET for liver lesions in 30 patients, including those with primary and metastatic liver lesions. Following FAPI PET imaging, patients underwent ultrasound (USG) or CT-guided liver biopsy, with histopathological correlation used as the reference standard.

Results: In 10 patients, FAPI-avid lesions were detected in multiple areas, correlating with findings on MRI or CT of the abdomen. These patients did not require biopsies for further management. FAPI PET findings correlated with HPE reports in 12 cases, demonstrating correlation between imaging results and histopathological evaluations. In 4 patients, areas of high FAPI avidity on PET scans did not show corresponding lesions on CECT or MRI. CT-guided biopsies of these regions yielded negative results. Four additional patients who had undergone liver-directed therapies for metastatic colorectal cancer were followed up after 6 months using FAPI PET. These scans showed very high activity in areas treated with locoregional therapies. FAPI PET demonstrated a sensitivity of 84%, a specificity of 55%, and a positive predictive value of 64%.

Conclusion : FAPI PET is a promising imaging modality for evaluating liver lesions, offering high sensitivity and convenience compared to FDG PET.

Abstract ID – 1.3.005

Factors impacting survival after transarterial radioembolization in patients with hepatocellular carcinoma: Single centre experience

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Purpose: Transarterial radioembolization (TARE) with yttrium-90 microspheres is an established treatment option for patients with hepatocellular carcinoma (HCC). However, optimization of treatment as well as patient selection remains a challenge. Here we report on the effectiveness and prognostic factors, including dosing methods, associated with TARE for HCC in the retrospective study.

Material and Methods: 33 patients with HCC between Jan 2020 and Sep 2023 treated with TARE. Patient characteristics and treatment-related data were collected at baseline. Therapeutic response at three months (RECIST1.1 criteria) by calculating objective tumor response rates (ORR) and disease control (DCR) was evaluated. Kaplan-Meier and multivariate Cox regression were conducted to identify independent prognostic factors for overall survival (OS).

Results: thirty-three TAREs were performed (mean age, 71.52±9.56 years; 62.8% male). The median OS was 20.5 months, the median PFS was 16.1 months. At three months, the objective response rate (ORR) was 73% and the DCR 80%. OS was significantly associated with tumour-absorbed dose >300Gy (p=0.042), NIACE score (p=0.020), presence of cirrhosis (p = 0.007), radiation segmentectomy vs. lobectomy (p< 0.001), target volume <500 cm3 (p=0.008) and % perfuses volume (0.033).

Conclusion: TARE is an effective treatment in patients with HCC. Target volume and tumor dosimetry impact on survival.

Abstract ID – 1.3.006

Patient selection, lesion selection, technical success, safety profile and short term response rate of Balloon-Occluded Trans-Arterial Chemo-Embolisation(B-TACE) for Hepatocellular carcinoma (HCC)

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PURPOSE ;
To present our initial experience in B-TACE concerning patient selection, lesion selection, technical success, safety profile and response rate in our patients.

METHODS ;
Patients diagnosed with HCC and not amenable for transplant, resection or ablation were offered TACE and were classified into TACE with curative intent and palliative intent based on lesion and patient characteristics. Patients selected for TACE with curative intent were offered B-TACE, which was performed with Occlusafe® (balloon microcatheter) Terumo Europe NV, Leuven, Belgium. Good penetration of arterio-portal anastomosis with grade-2 portal vein opacification or achieving the maximum dose of Epirubicin of 70mg or 18ml of Lipiodol volume were considered as endpoints of B-TACE.

RESULTS ; Eleven patients with total of 13 lesions fulfilling the inclusion criteria for B-TACE underwent the procedure. Technical success was achieved in all targeted lesions. Complete response rate was 92.3% . Grade I portal vein opacification was noted in 7 lesions and grade II in remaining 6 lesions. Type I lipiodol deposition noted in all patients. Normalization of serum AST and ALT was noted during the 2 week follow up of all patients. No patient had post TACE hepatic decompensation.

CONCLUSION ; In properly selected patients planned for TACE with curative intent, B-TACE offers an excellent opportunity to achieve complete response. Our results are limited by the smaller number of lesions treated and lack of comparison with conventional TACE.

Abstract ID – 1.3.007

PICC port - A new way of vascular access in oncology patients. Are we ready for prime time?

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Aims & Objectives: To evaluate the safety and efficacy of PICC-PORTs for chemotherapy administration and assessing complication rates.

Methods: This prospective cohort study, conducted at Rajiv Gandhi Cancer Institute, New Delhi includes 155 PICC-PORT implants in adult patients requiring chemotherapy. The primary objective was to evaluate complications leading to device failure and removal before chemotherapy. A secondary objective was to evaluate the feasibility of usage in patients of various cancer types, costs and procedure duration. Study design and patients' characteristics: We analysed PICC-PORT outcomes in chemotherapy patients. All patients were outpatients receiving chemotherapy at fixed intervals according to protocol schedules. PICC-PORT implantation followed institutional protocols. Data was collected on demographics, region of malignancy, type of chemotherapy, insertion details, PICC-PORT duration, and complications (UEDVT, CRBSI, local infection, occlusion, dislodgment, malfunction).

Results: Of the 155 patients evaluated, 13 were lost to follow-up and 13 expired during treatment. The median follow-up period was 6.5 months. Complications occurred in 6.3% of patients, with thrombosis and infection being the most frequent (2.1% each). Catheter migration occurred in 1.4% of patients. Of the 10 patients who had their ports removed, reasons included: completion of therapy (6 patients), infection (3 patients), and extrusion (1 patient).

Conclusions: Our findings suggest that PICC-PORTs are a safe and effective alternative to well-established chest ports for chemotherapy administration, with a low incidence of complications and good dwell times.

Abstract ID – 1.4.001

Safety and efficacy of Apixaban (a novel anti-coagulant) for improving patency after intervention for fistula dysfunction in chronic kidney disease (CKD) patients

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Purpose
People with chronic kidney disease (CKD) are more prone to develop a hypercoagulable state. AVF angioplasty is often needed to repair fistula dysfunction in dialysis patients. Current guidelines recommend conventional blood thinners like Warfarin, when indicated, after angioplasty to prevent re-thrombosis. Novel anticoagulants (NoACs) like Apixaban have been explored and proven non-inferior to Warfarin in other conditions (like atrial fibrillation and peripheral arterial disease), but remains under-explored in CKD patients. The purpose of this limited study was to explore safety and efficacy of Apixaban in a dialysis cohort to maintain fistula patency after AVF angioplasty.

Materials and Methods
88 angioplasties in 77 patients were included. 26 received Apixaban (2.5 mg twice daily) along with Aspirin (tests), while 51 received only anti-platelets (unmatched controls). Patients were followed for minimum of 6 months and upto 18 months. Bleeding risk was assessed using HAS-BLED score and complications monitored using ISTH and TIMI systems.

Results
Patients on Apixaban had a lower rate of re-blockage of the blood vessel at 6 months compared to those on other blood thinners (significant, p=0.03). However, this difference evened out at 12 and 18 month time-points. Individual HAS-BLED parameters that increase the risk of bleeding were also identified.

Conclusion
Apixaban deserves to be considered safe and effective for preventing re-thrombosis after AVF angioplasty in dialysis patients, especially in the short term. However, given study limitations, like small sample size, unmatched cohort and short follow-up – larger and more rigorous RCTs are needed to establish results.

Abstract ID – 1.4.002

Radiation Exposure Unveiled: A 12-Year Multicentre Study on Access Site, Laterality, and Fluoroscopy Times in Varicocele Embolization

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Varicocele embolization is a minimally invasive treatment offering rapid recovery with minimal sedation. However, it carries carcinogenic risks from gonadal radiation exposure, which is related to fluoroscopic time (FT). Although FT likely correlates with varicocele complexity/anatomy, and operator experience, there is limited evidence regarding these associations. This study examines outcomes with varicocele embolization over 12-years at a multi-centric institution, focusing on the relationship between radiation exposure and procedural factors.

Methods:
269 patients underwent varicocele embolization between Aug'2011-Aug'2023. Records were reviewed, extracting data on demographics, varicocele size/laterality, procedural details, dosimetric data and outcomes. Left-sided embolization was performed in 241 patients and bilateral in 20. Femoral (CFV) access was used in 202 cases, and jugular (IJV) access in 25. Dose area product (DAP) and FT were correlated with procedure laterality and access site.

Result:
Success was achieved in over 80% cases, with failures due to inaccessible venous anatomy or absence of varicocele on pre-treatment venography. Immediate complications (vein perforation, allergic reaction, coil migration) occurred in 14 cases but did not result in significant morbidity/mortality. FT differed significantly between CFV vs IJV access (p=0.0001) and brachial vs IJV access (p=0.0254). DAP was significantly higher for left vs right-sided procedures (p=0.0093).

This study supports the clinical success of coil embolization for varicoceles with minimal complications. It suggests that access site impacts procedure duration, with laterality influencing radiation exposure, hence further investigation ensuring radiation safety should be done.

Abstract ID – 1.4.003

Transarterial embolization in adhesive capsulitis: Intermediate term results from the first study in India

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Background: Adhesive capsulitis, often known as "frozen shoulder," involves chronic pain and limited shoulder mobility due to inflammation, angiogenesis, and fibrosis. The condition's underlying mechanisms are not fully understood, but recent studies suggest that embolizing abnormal blood vessels might alleviate symptoms.

Aim: This study aimed to evaluate the safety and effectiveness of transarterial embolization (TAE) in treating adhesive capsulitis.

Materials and Methods: Twelve patients diagnosed with adhesive capsulitis who did not respond to conservative treatments for three months underwent TAE. The procedure involved identifying and embolizing abnormal vascular areas around the shoulder joint using Imipenem cilastatin particles. Assessments included Visual Analogue Scale (VAS) for pain, night-time VAS, and shoulder range of motion, measured at baseline, 1 week, 1 month, 3 months, and 6 months post-procedure.

Results: All patients showed abnormal vascularity in the rotator interval, which was successfully embolized through transarterial approaches. No complications were reported. Pain significantly decreased, with the mean VAS score dropping from 8.5 at baseline to 1.8 at 3 months. Night-time pain scores also notably reduced from 8.7 to 2.3 over the same period, indicating rapid and sustained relief post-embolization.

Conclusion: This pilot study suggests that TAE is a safe and effective treatment for adhesive capsulitis, providing quick pain relief and enhancing mobility. The procedure targets abnormal vascularization, which appears to play a role in the pathology of this condition, with no adverse effects observed up to six months post-treatment. Further studies with larger cohorts are needed to confirm these findings.

Abstract ID – 1.4.004

Untwisting a rare pulmonary vascular tangle

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Background: A 54-year-old man visited the IR clinic with complaints of chest pain and one episode of hemoptysis. He had no significant medical history, and routine examinations were normal. Chest Xray revealed multiple lobulated lesions at the right hilum, and CT angiography confirmed a rare condition: primary racemose hemangioma of the bronchial artery with aneurysmal dilatations and a direct fistula to the pulmonary artery.

Procedure: Endovascular treatment was planned to close the fistula, stop inflow, and obliterate the aneurysm. Using the right transfemoral approach, the bronchial artery was occluded with an Amplatzer Vascular Plug (AVP). The pulmonary side of the fistula was accessed via the transfemoral venous route and sealed using a combination of the AVP and coils. Follow-up CT angiography one month later showed a completely thrombosed aneurysm sac with no new symptoms reported by the patient.

Conclusions: Primary racemose hemangioma of the bronchial artery is an exceptionally rare condition characterized by enlarged and twisted bronchial arteries forming fistulas with pulmonary vessels. With fewer than 50 reported cases, it's believed to be a congenital vascular malformation. The aneurysms pose a significant risk of rupture. Endovascular embolization has proven effective, though treatment should be customized to each case's specifics.

Abstract ID – 1.4.005

Use of Hybrid CT-DSA system for percutaneous radiological gastrostomy in patients with absolute dysphagia due to esophageal cancers

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Purpose: To evaluate technical success, safety and short term outcomes of percutaneous radiological gastrostomy tube placement using hybrid CT-DSA system.

Material and methods: This was a retrospective observational study involving 12 patients who underwent percutaneous radiological gastrostomy (push type) using guidance of hybrid CT-DSA system on same table from September 2023 to September 2024. These patients had absolute dysphagia with failed endoscopic/fluoroscopic-guided NGT/catheter insertion for stomach inflation. CT-guided direct percutaneous puncture of stomach was performed with placement of 5F angiographic catheter in stomach lumen. After distention, rest of the procedure to place gastrostomy tube was performed fluoroscopic guidance on same table. The mean follow-up was 4 months (1 to 12 months).

Results: The mean age was 58 years with 9 male patients. Site of obstruction was in upper oesophagus (7), lower oesophagus (4) and mid-oesophagus (1). Technical success of 100% was seen with successful placement of gastrostomy tubes in all 12 patients. No procedure related mortality was seen. Minor complications like local pain was seen in 3 of 12 patients which was resolved with conservative treatment. One patient had developed parastomal infection after one week of tube placement which was managed conservatively. Removal of tube was done in 3 patients after improvement in dysphagia after radiotherapy. 4 patients had died during the follow-up due to advanced primary cancer unrelated to gastrostomy.

Conclusion:
Use of a hybrid CT-DSA system is safe and feasible with 100% technical success, minimal complications without shifting patient from CT room to fluoroscopy room

Abstract ID – 1.4.006

The Foot as a Window: Using Pedal Lipiodol Lymphangiography to Manage Groin Lymphatic Leak

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Introduction:
Lymphatic leaks, particularly those originating in the groin, present significant challenges due to the complexity of the lymphatic system. Techniques such as lymphoscintigraphy and MR lymphangiography may fail to detect subtle leaks. In such cases, Lipiodol lymphangiography serves as a highly effective alternative, offering both anatomical and functional insights. Pedal Lipiodol lymphangiography, though uncommon, involves the injection of Lipiodol into the lymphatics of the foot to visualize leaks. We present a case illustrating the utility of pedal Lipiodol lymphangiography in localizing and managing groin lymphatic leak.

Case Presentation:
A 29-year-old male, after being weaned from ECMO for severe viral pneumonia, developed a femoral artery-to-vein fistula. This was repaired surgically, but an infection led to the failure of the femoral patch, requiring further surgery. Post-operatively, the patient experienced a persistent watery discharge from the groin drain, suggesting a lymphatic leak. Pedal Lipiodol lymphangiography was performed on the patient's ipsilateral foot. After local anesthesia, methylene blue was injected, and the lymphatic vessels were identified. Lipiodol was injected into the vessels under fluoroscopic guidance, revealing leakage into the groin. The procedure also provided therapeutic embolization, effectively managing the leak.
Follow-up imaging showed Lipiodol stasis in the groin and no fluid collections, confirming successful closure of the leak.

Conclusion:
This case highlights the efficacy of pedal Lipiodol lymphangiography in diagnosing and treating complex lymphatic leaks, especially when conventional methods fail. The dual diagnostic and therapeutic role of Lipiodol is invaluable in managing difficult post-surgical leaks, such as those originating from the groin.

Abstract ID – 1.4.007

The role of radiomics in post DEB-TACE response assessment in Hepatocellular Carcinoma

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Objectives:
• To utilize radiomics analysis to evaluate treatment response in patients post-first cycle DEB-TACE for HCC.
• To extract quantitative features from imaging data to assess therapeutic efficacy and identifying predictive markers of treatment response

Methods:
43 patients diagnosed with HCC were analysed. All of them underwent DEB-TACE. Manual segmentation of tumoural ROI with radiomic feature extraction was done for all the patients using LIFEx software.
Post TACE, treatment response was assessed using mRECIST criteria.
Feature extraction done on Porto-venous phase images. The extracted radiomics features were divided into five categories. The clinical-laboratory parameters and texture analysis were correlated using statistical analysis.

Results:
The majority of patients have had relatively favourable characteristics, such as a single lesion, absence of portal vein thrombosis diabetes, Cirrhosis and extrahepatic spread.
The most significant radiomic parameters associated with prediction of treatment response outcomes was first order feature- Intensity based Variance for Partial response and for Progressive disease (p-value<0.001). The high median intensity-based variance before TACE suggested considerable heterogeneity within the tumor. The median intensity-based variance decreases substantially after TACE, indicating a reduction in tumor heterogeneity post-treatment, suggesting that TACE effectively reduced the complexity and irregularity of the tumor, which could correlate with a better treatment response.

Conclusion:
The present study shows significant correlation between radiomic features extracted from Pre and Post treatment contrast CT images with the treatment response after first cycle of DEB- TACE. Using these selected parameters, further studies can be done for higher level statistics with model training and validation.

Abstract ID – 1.5.001

"Bridging gaps": Role of multimodal embolization and adjuvant radiosurgery for cerebral arteriovenous malformations

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Introduction and background
As per the Society of Neurointerventional Surgery (SNIS) 2022 report, the role of embolization as an adjunct to radiosurgery is not well established and our study aimed to explore the factors predictive of nidal obliteration in AVMs treated by endovascular embolization followed adjuvant SRS.

Objective
To assess the angiographic and clinical factors predictive of nidal obliteration in AVMs treated by endovascular embolization followed adjuvant SRS.

Methods
We retrospectively included all consecutive patients with cerebral AVMs who presented to our institute between January 2011 and January 2020 (10 year period), and, were subjected to single/ multiple sittings of endovascular embolization followed by adjuvant SRS.

Results
A total of 400 cerebral AVMs were treated at our institute during this interval, and, 39 patients were subjected to endovascular embolization followed by adjuvant SRS. Larger baseline nidal volumes were associated with larger final residual volumes (p=0.02), and, ventricular (p=0.01) as well as thalamic (p=0.013) locations significantly increased the residual nidal volume. Presence of venous stenosis had a significant association with nidal obliteration (p=0.043). Our multivariate regression model was able to explain 77.86% of variance (R2= 0.78) in residual nidal volume suggesting its robustness, and, significant ANOVA (p<0.001) confirmed that the model fits the data well.

Conclusion
Our study results suggest that endovascular embolization followed by adjuvant stereotactic radiosurgery is an effective treatment option for carefully selected AVM patients.

Abstract ID – 1.5.002

Multiple Stent Retriever Technique for Mechanical Thrombectomy in Acute Stroke- A Feasibility Study

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Purpose: To evaluate the role of the multiple stent retriever (SR) technique in mechanical thrombectomy (MT) for acute ischemic stroke.
Materials and methods: The retrospective observational study was conducted between February 2023 and September 2024 on acute ischemic stroke patients with large vessel occlusion of anterior circulation and underwent MT with simultaneous deployment of multiple SRs. Technical success was defined as successful recanalization (mTICI ≥2b) without additional techniques.

Results: Sixteen patients (Median age [IQR], 58.5 [47.5-67] years; males, 12/16 [75%]) underwent MT with the multiple SR technique. Two SRs were used in 15 patients (93.8%) and they were deployed into both middle cerebral artery (MCA) divisions in parallel (8/15, 53.3%), one division of MCA in parallel (2/15, 13.3%), M1 and M2 segments of MCA in series (4/15, 26.7%), or anterior cerebral artery (ACA) and MCA in parallel (1/15, 6.7%). In one case, three SRs were deployed in series in internal carotid artery (ICA) and MCA. First pass recanalization rate with multiple SR technique was 60% (6/10). Technical success rate was 62.5% (10/16) and overall successful recanalization rate with or without additional techniques was 81.3% (13/16). Two patients (12.5%) had symptomatic intracranial hemorrhage while eight (50%) had good functional outcomes (modified Rankin score (mRS) 0-2 at 90 days).

Conclusion: Multiple SR technique is feasible and safe in acute ischemic stroke patients when the thrombus is long or involves the ICA or MCA bifurcation.

Abstract ID – 1.5.003

Mechanical Thrombectomy in Posterior Circulation Stroke, Insights from a Comprehensive Stroke Center in South India

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Background: Posterior circulation strokes due to large vessel occlusions (LVOs) pose unique challenges, with high morbidity and mortality if untreated. Mechanical thrombectomy (MT) has demonstrated efficacy in anterior circulation strokes, but its role in posterior circulation strokes remains less established.

Objective: To evaluate the efficacy and safety of MT in patients with acute posterior circulation stroke caused by LVOs of the vertebrobasilar system.
Methods: We conducted a prospective and retrospective observational study at a tertiary care center from January 2020 to November 2024. Forty-five patients with acute posterior circulation stroke and NIHSS >6 was included. Patients underwent MT within 24 hours of stroke onset, provided they met predefined imaging and clinical criteria Primary outcomes included functional independence (mRS <3) at 90 days and successful reperfusion (mTICI 2b/3). Safety endpoints were symptomatic intracranial hemorrhage (Heidelberg classification) and 90-day all-cause mortality. Secondary outcomes assessed NIHSS improvement and length of hospital stay.

Results: Preliminary analysis shows a favorable outcome (mRS less than or equal to 3 at 90 days) in 68.8% of patients, with successful reperfusion achieved in 100% (mTICI 2b/3). Symptomatic intracranial hemorrhage occurred in 8.8%, and all cause 90-day mortality was 26.6 %. Mean hospital stay was 12.2 days. ICAD was the main etiological factor in 64.4% of patients followed by artery-to-artery embolism and dissection.

Conclusion: Mechanical thrombectomy is a safe and effective intervention for acute posterior circulation strokes due to LVOs, particularly when performed in high-volume centers with strict selection criteria.

Abstract ID – 1.5.004

Indirect CCF-not merely an orbital swelling!-a tale of only liquid embolic agent

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Purpose: Indirect carotico-cavernous fistula, a rare form of fistula in the middle cranial skull base, between the arterial feeders of external and or internal carotid artery branches and cavernous sinus. We summed up 19 cases of indirect CCF in a tertiary centre of south India.

Materials and methods: cases of Indirect CCF were collected retrospectively from our hospital's RIS/HIS.

Results: In this cohort, orbital swelling-proptosis (9/19- 47%) is the most common presentation, and ophthalmoplegia was always added to that. Four of our cases (4/19-21%) presented with intra-cerebral bleed. Venous drainage via the ophthalmic vein was the most common and may be slow or brisk. Rest were via IPS or MCV further into the CVR into cerebral or cerebellar parenchyma. We used venous access in 94.7% (18/19) of the cases. Amidst, IPS access was used in most cases (17/19-89.4%) irrespective of venous drainage. In one case where IPS anchoring failed, Facial vein access reached via the anterior ophthalmic vein was used. Only liquid embolic agents were used in all the cases. Complete obliteration of the fistula point, venous access, and arterial end plates were noted, and in the form of outcome wise, 5.2% (1/19) cases only had residual eversion of the inferior eyelid even though proptosis resolved.

Conclusion: Venous drainage of the cavernous sinus changes the clinical presentation, which in turn changes the method of venous access treatment in indirect CCF management.

Abstract ID – 1.5.005

Dural sinus malformation (DSM): all large venous pouch in neonate is not VOGM!

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Learning objectives: Dural sinus malformation (DSM) - Distinct angiographic architecture from other dural AV shunts - Early diagnosis and single or multi-session therapeutic obliteration is target Background Dural sinus malformation (DSM) is one of the rare forms of congenital vascular malformation of paediatric age group. Usually, they present in the early neonatal age group or even antenatal diagnosis of DSM can be done. It is characteristically distinct from the Vein of Galen Malformation (VOGM), which mimics fetal sonography. In DSM, dysplastic lake-like venous pouch at torcula with multiple arterial feeders from external and internal carotid arteries, vertebral artery having fistula at and around dysmorphic torcula. Arterial side embolization using liquid embolic agents is the primary mode of management. Single or multiple sessions depend upon the angioarchitecture.

Clinical Findings/Procedure: All the cases were of early childhood 12 months to 30 months of child age. Clinical presentation of all the cases was having a large head, congenital hydrocephalus, and slow growth and developmental milestones. All underwent MRI to confirm the presence of a large venous sac replacing the torcula with enlarged dural arteries from bilateral ECAs having para-midline or midline fistula at the torcula or transverse-sigmoid sinus. Treatment with liquid embolic agent embolization via the arterial feeders with a push-plug technique using a flow-guided microcatheter. Two of the cases (50%-2/4) underwent two sessions of embolization to achieve near-complete obliteration.

Conclusion: DSM is a distinct arteriovenous malformation, early diagnosis with therapeutic embolization will have a better prognosis in neonates.

Abstract ID – 1.5.006

Silencing tinnitus: An Endovascular Cure for Venous Origin

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This case report illustrates the management of a rare venous cause of pulsatile tinnitus using endovascular techniques. Pulsatile tinnitus, the perception of sound in sync with the pulse, can result from transverse sinus stenosis with sigmoid diverticulum. A pressure gradient greater than 8 mmHg across the stenotic segment is an indication for stenting.
A 50-year-old female presented with left-sided pulsatile tinnitus and headache for one month, without visual deficits. MR Venogram revealed intrinsic bilateral transverse sinus stenosis, left-sided dominance, and a left sigmoid sinus diverticulum. HRCT confirmed dehiscence of sigmoid plate (air on sinus sign).
The patient underwent left transverse sinus stenting with sigmoid diverticulum coiling. DSA showed bilateral transverse sinus stenosis(R>L) and a 10 x 8.3 mm left sigmoid sinus diverticulum with a 3.8 mm neck, and a pressure gradient of 9 mm Hg across the stenosis. The diverticulum neck was accessed from right femoral vein and tightly packed with five micro coils. The stenotic segment of the left transverse sinus was stented using 9 x 50 mm stent via left IJV access, covering entire length of sinus. Post-procedure DSA confirmed successful stent deployment and complete obliteration of the diverticulum.
Post procedure, patient experienced immediate resolution of tinnitus. Venous causes of pulsatile tinnitus should always be ruled out. Transverse sinus stenosis with sigmoid diverticulum is one of the correctable venous causes and endovascular management is an effective treatment option. This case highlights the rare venous cause for tinnitus, patient selection for treatment and endovascular technique.

Abstract ID – 1.5.007

Coronary DES in the management of medically refractory ICAD: Initial experience, insights & outcomes

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Background: Patients with symptomatic intracranial stenosis face a high risk of major stroke, and current guidelines recommend best medical management (BMT). However, those with refractory symptoms despite optimal treatment may benefit from angioplasty and stenting. In the absence of dedicated neurovascular hardware, drug-eluting coronary stents (DES) present a viable option for appropriately selected patients.

Aims: This study aims to evaluate the safety profile and short-term outcomes of balloon-mounted DES in patients with medically refractory symptomatic intracranial atherosclerotic disease.

Methods: We conducted a single-center, retrospective, observational study on elective revascularization procedures using coronary DES in adult patients aged 18-80 years with medically refractory symptomatic intracranial atherosclerotic disease.

Results: During the study period, intracranial atherosclerotic disease was identified as the cause stroke or transient ischemic attack (TIA) in 24 patients. All patients received BMT, including dual antiplatelet therapy and statins. Among these, 11 patients remained symptomatic despite BMT and subsequently underwent angioplasty and stenting with coronary DES. The locations of intracranial atherosclerotic disease included distal M1 MCA (n=1), vertebrobasilar junction (n=2), supraclinoid ICA (n=2), and petrocavernous ICA (n=6). The mean follow-up duration was 194 days, during which no immediate or delayed thrombotic complications were observed. All patients remained asymptomatic for recurrent events in the target vascular territory throughout the follow-up period. One patient, who developed hyperperfusion-related intracranial hemorrhage 72 hours post-revascularization.

Conclusion: Balloon-mounted coronary DES represent a viable alternative for the revascularization of medically refractory intracranial atherosclerotic disease, with no recurrent symptoms noted during short-term follow-up.

Abstract ID – 1.5.008

CT clot perviousness in Acute Ischemic Stroke - Histological correlation and prognostic significance

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Background
The value of CT clot perviousness as a pre interventional imaging marker for histological clot composition and predictor of functional outcome is increasingly being studied, though with controversial results.

Aims and Objectives
To determine if CT clot perviousness can be a criterion for patient selection for MT by determining whether CT pervious clots are RBC rich and if CT clot perviousness is associated with procedural and functional outcomes.

Materials and methods
Patients who underwent MT for AIS between March 2023 and May 2024 were studied prospectively. Thrombus attenuation increase (TAI) was calculated from NCCT and CTA images. mTICI grading was used to determine procedural outcome and mRS score at 3 months of discharge for functional outcome. Glycophorin A marker was used to quantify the percentage of RBCs in the clot.
Correlation between TAI and clot RBC content was determined using Pearson correlation coefficient. Association between TAI and procedural and functional outcomes were analysed using Fisher's exact test.

Results
A negative correlation was found between TAI and RBC content of clot (r=-0.49; p-value 0.002). There was no significant association between TAI and procedural outcome (p-value 0.538) or functional outcome (p-value 0.441).

Conclusion
CT Clot perviousness assessed is negatively correlated with clot RBC and has no significant association with recanalization or clinical outcomes. Hence, it may not be a reliable prognostic indicator while selecting patients for mechanical thrombectomy.

Abstract ID – 1.5.009

Management of carotid free-floating thrombus

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Introduction:
Carotid free-floating thrombus (FFT) is elongated thrombus partially attached to the arterial wall, allowing for circumferential blood flow around it. This configuration increases the risk of embolization and cerebral ischemic events.

Objectives:
To help in the planning and guidance of administered treatment.
To assess the neurological outcome and related complications.

Materials and Method:
A single-centre retrospective study involving total of 23 patients. Imaging characteristics, location of the thrombus, presenting symptoms (NIHSS), management, clinical outcome and follow-up imaging was assessed. All patients were treated with anticoagulation and single antiplatelet for 14 days after assessing infarct size. Blood pressure monitoring was advised to reduce the risk of intracranial bleed.

Result:
Out of 23 patients, complete resolution of thrombus was noted in 21 patients;1 patient was lost to follow-up, 1 elderly hypertensive patient succumbed on day 12 of anticoagulation due to multifocal intracranial bleed. 1 patient had hypercoagulable state and had no underlying atherosclerotic plaque. Underlying atherosclerotic plaque was noted in 20 out of 23 patients. Moderate to severe carotid stenosis was noted in 9 patients, who underwent delayed carotid artery stenting.

Conclusion:
Patients with not more than 1/3rd territorial infarcts and free-floating carotid thrombus can be managed effectively with initial anticoagulation and single antiplatelet followed by delayed carotid artery stenting if required. Caution should be exercised while prescribing this treatment to patients with advanced age and uncontrolled hypertension.

Abstract ID – 1.5.010

Role of Intravascular Ultrasound in Dural Venous Sinus Stenosis and Stenting - A Prospective Single Centre Study

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Purpose:
To analyze the application of Intravascular ultrasound (IVUS) as an adjunct to conventional venoplasty or stenting to facilitate diagnosis and ensure accurate stent placement in cerebral venous sinus stenosis.

Methodology:
A single centre prospective study involved twelve cases of cerebral venous sinus stenosis related raised intracranial pressure, managed with IVUS-guided dural venous sinus stenting/venoplasty at our neurointerventional center in the year 2024. In all the cases Philips Visions PV .014P RX catheter 014R were used.

Results:
Based on the experiences drawn in these cases it can be inferred that utilization of IVUS provided detailed and accurate assessment of following when performed in conjunction with the fluoroscopy:
• Real time visualization of lumen and its caliber
• Vessel wall and its size
• Key anatomical landmarks
• Position of wire in true or false lumen
• Length of stenosis and normal landing zone in the vein and chosing the appropriate stent size
Post procedure
• Assessment of stent apposition and hence aids in necessary correction by in-stent plasty

Conclusion:
By providing detailed and accurate measurements of lumen size, the location of key anatomical landmarks and post procedure assessment of stent apposition, IVUS proves to be a valuable tool in dural venous sinus stenting procedures.

Abstract ID – 1.5.009

Outcomes of endovascular management in patients with emergent carotid artery blow out syndrome: A tertiary care centre experience

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PURPOSE

Carotid blowout syndrome (CBS) is a life-threatening condition caused by vascular invasion from advanced head and neck cancers, trauma, or infections, leading to rupture of extracranial carotid arteries or branches. This study evaluates the safety, efficacy, and complications of endovascular interventions for emergent CBS cases at a tertiary care center.

MATERIALS AND METHODS

A retrospective analysis of 29 CBS patients treated with endovascular techniques over two years was performed. Demographics, procedural details, outcomes, and complications were reviewed. Treatments included super-selective embolization, parent artery occlusion (PAO), and carotid stenting.

RESULTS

Among 29 patients (mean age 46.3 years; 27 males, 2 females) with 32 bleeding lesions, tumor-related CBS was the primary cause (89.7%), followed by trauma (6.9%) and infection (3.5%). Most lesions were grade 3 pseudoaneurysms (58.6%), with grade II CBS (51.7%) being most common. Interventions achieved 96.6% hemorrhage control with a 3.4% recurrence rate. No major neurological complications or procedural mortality occurred. Stenting resulted in shorter hospital stays (2.8 vs. 5.3 days for embolization, p=0.013). Intra-procedural complications occurred in 13.8%, with no statistically significant differences across groups.

CONCLUSION

Endovascular techniques are highly effective for emergent CBS, with low complication rates. Larger studies are needed to optimize strategies for this high-risk population.

Abstract ID – 1.6.001

Percutaneous Hepaticogastrostomy for non-internalizable malignant or benign biliary strictures

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Learning objectives: To review the rationale, indications, contraindications, hardware requirements, and procedural technique for percutaneous hepaticogastrostomy (HGS) as a method for internal biliary diversion in biliary strictures.

Background: Internal biliary drainage typically involves trans-stricture choledochoduodenal stenting, but is only feasible when the stricture is negotiable with guidewires and stent delivery devices. In cases where this method fails or is difficult, percutaneous HGS offers a sustainable alternative, especially in malignant strictures, as it avoids complications like tumor-related bleeding and stent ingrowth. It is also useful in portal biliopathy when other options pose risks. Percutaneous HGS is technically simpler than EUS-guided HGS and is preferred when ERCP is inaccessible. Contraindications include non-accessible biliary systems, multifocal strictures, tumors, ascites, varices, and coagulopathy.

Procedure details: Access is gained through the right anterior or posterior biliary ducts using a 5F micropuncture set under ultrasound and fluoroscopy. A glidewire is advanced to the segment 3 duct, exchanged with an ultrastiff guidewire, and a 10F check-flo introducer sheath is placed. The stomach is inflated using air and a RUPS stiffening cannula is directed towards the stomach for gastric puncture through the liver using the catheter-stylet combination followed by gram to confirm the intraluminal positioning. After balloon dilation, a fully covered or partially covered dedicated HGS stent (Niti-S™ GIOBOR™) is deployed. The PTBD catheter is removed after 1-2 days following stent patency confirmation.

Conclusion: Percutaneous HGS is an effective alternative to long-term external biliary drainage in non-negotiable biliary strictures, providing a convenient, cost-effective option for patients.

Abstract ID – 1.6.001

Comparison of technical difficulty and safety between right and left-sided percutaneous transhepatic biliary drainage (PTBD) in a non-dilated system

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Aim: To compare the technical difficulty and safety between right-sided (R-PTBD) and left-sided (L-PTBD) percutaneous transhepatic biliary drainage (PTBD) in patients with non-dilated bile ducts

Materials and Methods: 42 patients (22 males, 20 females; mean age 46.2 ± 13.7 years) who received PTBD in non-dilated bile ducts (from Sept 2021 to Jan 2024) were dichotomized into R-PTBD (n=22) and L-PTBD (n=20) groups followed by evaluation of different technical parameters and complications between the two groups.

Results: The R-PTBD group had significantly fewer needle punctures for biliary access (3.9 ± 1.3 vs. 4.3 ± 1.3; p=0.004) and a shorter procedure duration (21 ± 8.5 min vs. 29.9 ± 13.2 min; p=0.021) than the L-PTBD group. The successful biliary puncture [20 (90.9%) vs. 15 (75%); p=0.229] and technical success rate [20 (90.9%) vs. 14 (70%); p=0.123] were also higher for R-PTBD than L-PTBD, while R-PTBD required less fluoroscopic time [5.83 (3.5-8.13) vs. 8.16 (4.34-12.9) min; p=0.113]. However, these differences did not reach statistical significance (p>0.05). Further, difficulty during catheter placement was more frequently encountered in the L-PTBD group [02 (9%) vs. 04 (20%); p=0.367]. The overall complication and hemorrhagic complication rates were comparable between both groups.

Conclusions: When both approaches are equally suitable for patients with non-dilated bile ducts, right-sided PTBD may be favored over left-sided PTBD

Abstract ID – 1.6.002

Revolutionizing Paediatric Osteoid Osteoma Treatment: A Comparative Study of Microwave and Radiofrequency Ablation

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Purpose
Compare the efficacy and safety of microwave ablation (MWA) versus radiofrequency ablation (RFA) in the treatment of osteoid osteoma. Specifically, it evaluates the advantages of MWA.

Methods
A retrospective analysis was conducted on 21 patients treated for osteoid osteoma over the past 6 years. 10 patients underwent MWA, while 11 received RFA. The primary outcomes measured were technical success and complication rates.

Results
MWA and RFA demonstrated a 100% technical success rate with significant pain relief.RFA showed difficulties in cases with gross sclerosis, causing difficulty in deployment of probe , preventing it from achieving effective ablation due to insulation by the sclerotic bone. Additionally, RFA posed risks to growth plates, potentially leading to stunting and injuries, which were not observed in MWA due to its more precise and focal application leading to freedom to go close to vital structures and ease of electrode placement .Complication rates were minimal for both methods, but MWA had the added eliminating dispersion pads and avoiding electrical current through the patient's body, hence lesser incidence of skin burns.

Conclusions
MWA offers several advantages over RFA in the treatment of osteoid osteoma, including higher technical success rates, better efficacy in sclerotic cases, and reduced risk of growth plate injuries. These benefits, combined with the elimination of dispersion pads , the absence of electrical current through the patient's body and lesions in challenging locations, where its precision and control can be beneficial, make MWA a superior choice for treating osteoid osteoma.

Abstract ID – 1.6.003

Efficacy and Safety of Percutaneous Cystogastrostomy in the Management of Walled-off Necrosis and Pseudocyst in Patients of Pancreatitis: a Single-Center Retrospective Study

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Purpose:
This study evaluates the safety, efficacy, and outcomes of percutaneous cystogastrostomy (PCG) in managing walled-off necrosis (WON) and pseudocysts in pancreatitis patients, comparing it to surgical and endoscopic ultrasound-guided interventions.

Materials and Methods:
A retrospective, single-center study was conducted at the Indian Institute of Liver and Digestive Sciences, Kolkata, from July 2022 to December 2024. Data from 28 patients with acute pancreatitis complicated by WON or pseudocyst formation were analyzed. Inclusion criteria included symptomatic patients with well-defined collections, failed conservative management, and suitable anatomical locations for PCG. Data collected included demographics, procedural success, complications, length of hospital stay, and long-term outcomes.

Results:
PCG demonstrated a 100% technical success rate with no major complications. Mild insertion-site pain occurred in most patients and was managed with analgesics. One patient (3.5%) died due to multiple organ dysfunction syndrome, and two (7.1%) required catheter repositioning. Surgical necrosectomy was needed in one patient (3.5%), while two (7.1%) experienced collection recurrence, managed with aspiration. The median hospital stay was 26 days, with 16 days post-PCG. Patients with higher CT Severity Index scores had longer hospital stays.

Conclusion:
PCG is a safe, effective, and minimally invasive approach for treating WON and pseudocysts in pancreatitis. With minimal complications and favorable outcomes, it offers significant advantages over traditional surgical options. Further multicenter, prospective studies are warranted to confirm these findings and refine patient selection criteria.

Abstract ID – 1.6.004

Bronchopleural Fistulae - Coil Embolization Through Combined Bronchoscopic and Fluroscopic Image Guidance

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Background
Broncho-peural fistula (BPF) results in a continuous or intermittent (on cough/effort) airleak into the pleural cavity.. Management is initially conservative, failure of which needs surgical or endoscopic management.We hypothesized that use of vascular coils would allow access to subsegmental bronchi and beyond, resulting in improved outcomes.

Objectives
To evaluate the feasibility and outcomes of coil embolization of peripheral bronchi in the management of BPF.

Methods
We present our experience with 4 cases of BPF who were managed with coil embolization. The site of leak was identified on a pre-procedure MDCT and cannulation planned accordingly. . FOB was placed upto the origin of the culprit segmental bronchus. Bronchograms were performed using 3-4 ml of 50% diluted contrast. Microcatheters were placed upto the pleura and micro-coils placed. Additional glue-lipoidol (1:4) was used if deemed necessary based on the subsequent bronchogram.

Results
All patients were males, age range 16-37 years. Bronchograms identified multiple sites (RLL-2, LLL-1, LUL-1) of leak in all patients at subsegmental level. Bronchogram revealed more sites than identified by MDCT, though in the same bronchopulmonary segment (BPS). Technical success could be achieved in all patients, while clinical success was seen in 3 out of 4. In the patient with emphysema, the air-leak continued, likely due to additional leak sites in other lobes/ segments. There were no immediate or delayed complications or recurrence.

Conclusions
The case series demonstrates that coil embolization of sub-segmental and smaller, peripheral bronchi is a viable treatment option in the management of BPFs.

Abstract ID – 1.6.005

Role of image-guided chemical paralysis and pre-operative progressive pneumoperitoneum in surgical management of large abdominal wall hernia

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Introduction:

The surgical management of large abdominal hernia is a challenge with increased complication rate. Chemical paralysis of abdominal wall musculature and pre-operative progressive pneumoperitoneum (PPP) creation can facilitate surgery and reduce complications. This research paper addresses the technical details of the procedure and its outcome.

Materials and methods:

This is a prospective-retrospective study in which patients with large abdominal wall hernia, who underwent PPP with or without chemical paralysis were included. The primary outcome of the study was the adequacy of fascial closure and the secondary outcomes included the analysis of location & size of the defect, loss of domain%, units of Botox injected, post-Botox percentage of reduction in abdominal wall muscle thickness, duration between Botox injection and PPP creation, complications due to Botox and PPP, and duration between PPP and surgery.

Results:

Total number of patients included in this study was 6. The average defect size of the hernia is 11.1 cm and the mean loss of domain was 25.4%. Botox was injected in 4 patients at 6 sites with a mean dose of 33 units at each site. Mean percentage reduction in thickness of the right and left external oblique, internal oblique, and transverse abdominus muscle were 22%, 33.26%, 46%, 10.85%, 21.58%, and 26.92%, respectively. No major complications were noted. Surgery with adequate fascial closure was successful in all patients.

Conclusion:

Chemical paralysis and image-guided PPP are safe, and effective techniques in patients with large abdominal wall hernia undergoing surgery.

Abstract ID – 1.6.006

Innovative or Obsolete? The Role of CBCT and Fluoroscopy in Small Lung Nodule Biopsy in the Current Era

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Introduction:
Biopsy of small lung nodules presents challenges in terms of accuracy and complication rates. While CT-guided biopsy is the gold standard, it has limitations, particularly in non-cooperative patients, or when the lesions are located in difficult areas like lower lobes, or adjacent to pleural fissures. Fluoroscopy-guided biopsy combined with Cone Beam CT (CBCT) provides real-time imaging, potentially addressing these challenges. This study evaluates the technical success, diagnostic accuracy, complication rates, and radiation exposure of fluoroscopy + CBCT for small lung nodules, comparing these outcomes to traditional CT-guided biopsy.

Materials and Methods:
This retrospective study analyzed 24 patients who underwent fluoroscopy-guided biopsy with CBCT for small lung nodules (< 10 mm) between February and December 2024. Data on technical success, diagnostic accuracy, complications, and radiation exposure were collected and compared with published results for CT-guided biopsy.

Results:
Fluoroscopy + CBCT achieved a 100% technical success rate, in contrast, CT-guided biopsy has a technical success rate of 95-98%. Diagnostic accuracy for fluoroscopy + CBCT was also 100%, compared to 87-99% for CT-guided biopsy. The complication rate in the fluoroscopy + CBCT group was 4%, significantly lower than the 10-15% rate for CT-guided biopsies. Additionally, fluoroscopy + CBCT resulted in 30-40% lower radiation exposure compared to CT-guided biopsy, with reduced operator radiation exposure as experience increased.

Conclusion:
Fluoroscopy + CBCT biopsy offers a safe, effective, and lower-radiation alternative for biopsying small lung nodules, especially in challenging locations. As operator experience improves, radiation exposure for both patients and operators decreases, making this approach a valuable complement to CT-guided biopsy.

Abstract ID – 1.6.007

Efficacy of percutaneous brush cytology in diagnosing malignant biliary obstruction

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Purpose:
This study aimed to assess the diagnostic efficacy of percutaneous biliary brush cytology (PBC) in detecting malignancies in patients with biliary obstruction, focusing on sensitivity, specificity, and diagnostic accuracy.

Materials and Methods:
A retrospective study was conducted at our hospital involving 267 patients who underwent PBC between 2014 and 2024. Patients were selected based on the level of biliary obstruction and suspected malignancy. Brush cytology specimens were collected during percutaneous biliary drainage (PBD), and results were classified by primary cancer type and obstruction level. Factors such as stricture location, age, gender, and pre-procedure CA 19.9 and AFP levels were evaluated. Cytology results were compared with histopathological findings (biopsy, surgical resection, or clinical follow-up). Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and diagnostic accuracy were calculated.

Results:
The mean age of the 267 patients was 58.2 years (range 23–82), with 53.1% males. PBC showed a positive result rate of 69.3% on the first pass. Specificity was 93%, PPV 95%, and NPV 87%. Repeat cytology increased the yield in 11 out of 26 patients. Cholangiocarcinoma had the highest diagnostic yield (52%). The yield was higher for low biliary obstruction (82%) compared to high obstruction (68.5%) and in patients aged over 50 years.

Conclusion:
Percutaneous biliary brush cytology is an effective diagnostic tool for biliary malignancies, with high diagnostic accuracy. Despite some limitations, it remains a valuable adjunct in the management of suspected biliary malignancy.

Abstract ID – 1.6.008

Role of Trans-jugular Intra-hepatic portosystemic Shunt (TIPS) in portal hypertensive bleeding and refractory ascites: Real world multicentric experience

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Background:
Transjugular intrahepatic portosystemic shunt (TIPS) is a therapeutic option for patients with complications of portal hypertension, though its efficacy varies across indications.

Aim:
This study aims to assess the efficacy of TIPS for treating variceal bleeding, ascites, and hepatic hydrothorax.

Materials and Methods:
In this multinational retrospective study, we included patients who underwent TIPS for varied indications. The primary objective was to evaluate TIPS efficacy in managing variceal bleeding, ascites, and hydrothorax. Secondary objectives included describing TIPS complications and identifying predictors of post-TIPS hepatic encephalopathy (HE).

Results:
A total of 207 patients (mean age 55.8±11.7 years; 36.7% with metabolic dysfunction-associated steatotic liver disease) underwent TIPS. Most patients were classified as CTP-B (67%), with only 15% in CTP-C. Refractory ascites was the most common indication (39.1%), followed by variceal bleeding (30%). Post-TIPS, ascites was controlled in 52% of patients, while variceal bleeding was successfully managed in 96%, and hydrothorax in 37.5%. Hepatic encephalopathy developed in 36.7% of patients post-TIPS, despite only 15% having a history of HE pre-procedure. Pre-TIPS HE was a significant predictor of post-TIPS HE (adjusted odds ratio 2.8; 95% CI, 1.03-7.55; P=0.04). Stent thrombosis occurred in 5% of patients. Transplant-free survival at 12 months was 65.2%.

Conclusions: TIPS is highly effective for variceal bleeding, but its success in managing ascites and hydrothorax is suboptimal.

Abstract ID – 1.7.001

Predictors of long-term survival in cirrhosis patients undergoing transjugular intrahepatic portosystemic shunt placement with special focus on the vulnerable elderly

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Purpose: To analyze the outcomes and predictors of survival in cirrhosis patients undergoing TIPS placement with special focus on outcomes of TIPS in the elderly.

Materials and Methods: From February 2021 to May 2024, we retrieved data of cirrhosis patients undergoing TIPS placement. Perioperative events, investigations, disease severity and final outcomes were analyzed. Outcomes in elderly (≥65 years) were compared with non-elderly group.

Results: Cohort included 258 patients (males, N = 201) with predominant etiology MASLD (58.5%). Indications for TIPS were acute variceal bleeding in 110 and refractory ascites in 92. Twenty-one died in-hospital post-TIPS. Emergency TIPS, intraprocedural hypotension, post-TIPS hepatic encephalopathy and infection were significant predictors (P <0.001) of in-hospital mortality. Strongest predictors of one-year mortality were in-hospital HE, infections, and cardiac events (P <0.001). Predictors of poor survival at two-years included hospital admission within 30 days, sepsis and cardiac events. The only independent predictor of one- and two-year death post-TIPS was MELD3 score. Even though elderly patients experienced significantly higher hospital admission post-TIPS (22.4% vs. 12.2%), lower pre-TIPS MELD3 (cut-off 13) was associated with improved two-year survival. Nonetheless, cumulative proportion of patients surviving after TIPS, between age groups were not significant at one- and two-years.

Conclusion: We identify drivers of long-term outcomes of TIPS and define modifiable events that could help improve long-term survival. Elderly patients with lower MELD3 scores experience better outcomes while improved HE management, early identification of cardiac events and control of infections post-procedure may help better long-term survival.

Abstract ID – 1.7.002

Determinants of in-hospital and long-term clinical outcomes in cirrhosis patients with pre-existing kidney disease undergoing transjugular intrahepatic portosystemic shunt placement

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Purpose: To study outcomes of TIPS in cirrhosis patients with pre-existing renal disease.

Materials and Methods: We analyzed 12-month clinical outcomes inclusive of changes in liver disease severity and renal function, portal hypertensive events, hospitalization, and transplant-free survival in 68 cirrhosis patients with pre-existing kidney disease (N = 25: CKD-stage G3a, 29: G3b, 12: G4 and 2: G5) who underwent TIPS procedure (June 2021 – October 2023) at an academic tertiary-level hospital.

Results: Males predominated (N = 57, 83.8%) and alcohol was etiology for cirrhosis in half. A quarter of the patients were acute-on-chronic liver failure (ACLF) class 2 at the time of procedure with median overall MELD3 and CLIF-C AD score 22.8 and 59, respectively. Eight (12%) patients died in hospital, a quarter developed overt HE on follow up, while more than one-third died at end of 12-months. Symptomatic ascites was notable only in 14% during first month post-procedure, while 15% required admission beyond 3-months post-TIPS, mainly for dyselectrolytemia. Post-TIPS renal function and Child-Pugh (P = 0.02) improved significantly. Infections requiring admission post-TIPS were significantly linked to higher mortality at 12-months (P = 0.004), but not Child-Pugh or MELD score, or presence of prior HE or post-TIPS HE episodes.

Conclusion: Our work revealed that in cirrhosis with pre-existing kidney disease, post-TIPS adverse events were significantly associated with intra-operative events, glycemic status and infections on follow-up, but not stage of renal disease, liver disease severity or encephalopathy, providing modifiable targets that can help improve outcomes after TIPS in advanced cirrhosis.

Abstract ID – 1.7.003

Selective Adrenal Artery embolization in unilateral functional adrenal adenoma

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Learning objectives
Embolization of adrenal adenoma using a high concentration of Alcohol.

Background
Laparoscopic adrenalectomy is the most common surgical procedure used to treat functioning adenomas. With a comparable biochemical and clinical success rate to surgery (82% vs. 90%), selective adrenal arterial embolization (SAAE) is an effective treatment option.

Clinical Findings/Procedure details
A 23-year-old male patient presented with complaints of episodic weakness in all four limbs which progressed to flaccid paralysis over the last year. He was found to have low serum potassium (3.2 mmol/dl), raised BP (140-150/90-100mm of Hg), raised urine k+ levels (82.9 meq/g), serum aldosterone (19.2 ng/dl, raised), direct renin concentration (<0.5 u IU/ml) which pointed towards suspicion of primary aldosteronism. CT angiography of the whole abdomen revealed a left adrenal lesion measuring~ 14x8x15mm. The arterial supply was from the left renal artery and splenic artery. DSA of the left renal artery, celiac axis, and splenic artery was performed which revealed blush from the inferior adrenal artery arising from the left renal artery. Selective cannulation was done by a 1.8 Fr micro-catheter with 0.014'' BMW wire. High-concentration alcohol(0.8ml of 70%) with contrast was injected intermittently till the complete disappearance of blush. Post-procedure showed reduced serum aldosterone levels(12.9 ng/dl) with increased direct renin concentration (0.9 u IU/ml).

Conclusion
Selective adrenal artery embolization with high-concentration alcohol is an effective alternate therapy

Abstract ID – 1.7.004

Retrospective review of percutaneous large profile aortic procedures in a tertiary vascular centre in the UK

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Aims: To evaluate efficacy, safety and technical success of percutaneous large profile vascular closure in aortic procedures

Methods: Retrospective review of large-profile aortic procedures performed percutaneously, at a UK tertiary vascular centre. Data collected included demographics, anatomical characteristics(CFA/EIA diameter, vessel calcification), sheath and device sizes, intra- and post-operative complications and length of stay.

Results: 100 patients were included with 180 groin access sites. Mean age 76 years(range 34-91). Procedures were elective(73), expedited(16) and emergency(11). Procedures included 81 EVARs, 8 TEVARs and 11 others. Double Preclose Proglide closure device was used in all cases;18 cases required additional Angioseal(Terumo) device. Mean device profiles were 17.4 Fr(14-22) main-body and 14.6 Fr(12-18) contralateral graft. Mean CFA and EIA diameters were 10.5mm(7-26) and 8.7mm(5-13) respectively. Mean skin-to-artery distance was 30.5mm(7-67). Conversion rate to surgical cutdown due to post-procedure closure-device failure was 5%. Access-related complications were noted in 11 cases. Mean length of stay was 3.6 days(range 1-48). 30-day mortality was 2%(unrelated to percutaneous access). Mean follow-up was 42 months(range 4-118). Percutaneous aortic procedures increased from 11% in 2020/21 to 49% in 2023/24.50 surgical cutdown EVAR were also analyzed. Mean length of stay was 7.08 days;30-day mortality was 8%.

Conclusions: Percutaneous closure in large-profile aortic procedures is safe, with a high technical success, low access-related complications, reduced length of stay compared to surgical cutdown EVAR, and no access-related mortality.

Abstract ID – 1.7.005

Coke in urine: A post aortic intervention nightmare

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Learning Objective:
The possibility of post aortic intervention limb and systemic complications and how timely management is essential in avoiding long term morbidity

Background:
A 59 year old male with infra-renal aortic aneurysm was in follow-up for 2 years and was finally taken up electively for EVAR with increase in size of aneurysm beyond cutoff diameter.

Clinical Findings/ Procedure details:
Infra-renal EVAR was done with bilateral arteriotomy. Post-op patient was shifted to ICCU and by the next morning his left limb had gone cold with loss of movement and sensation ankle downwards. An emergency DSA was done which showed a thrombus in the left EIA. Embolectomy was done. Post angioplasty good perfusion was seen in left CFA, however, patient had reperfusion injury the same day, following which he developed rhabdomyolysis and AKI, along with compartment syndrome. The patient was passing urine characteristic of rhabdomyolysis, which has a coal tar or coke like appearance. Severe hydration and alkalizing measures were taken over the next four days alongside release fasciotomy. Patient was discharged after another 7 days and had normal renal function at the time of discharge, along with improved limb function. A 3 month follow-up showed an intact stent, normal RFTs and nearly perfect limb function.

Conclusion:
While EVAR has reduced patient mortality and morbidity compared to open repair and has reduced hospital stay, incidents of limb ischemia remain at par with open repair and must be managed timely to avoid severe complications as seen in this case.

Abstract ID – 1.7.006

Abernethy malformation: an unusual cause of lower gastrointestinal bleeding-case report

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Learning objectives -To describe the clinical and radiological findings of Abernethy malformation

Background - Abernethy malformations are rare congenital anomalies of splanchnic venous system in which shunting of blood noted from portal circulation directly into systemic venous circulation.
Classification:
1.Complete(type1)—End to side with absent intrahepatic portal vein(PV) branches
•Type 1a- Splenic vein (SV) and superior mesenteric vein (SMV) drain separately into a systemic vein
• Type 1b- SV and SMV join to form a common trunk which drains into a systemic vein
2. Incomplete(type 2)—Intrahepatic PV radicles are present, partial diversion of the portal blood into a systemic vein through a side to side shunt
-The planning of treatment depends on the type of shunt .

Clinical findings and procedure details-
- A 19-year-old male presented with complaints of recurrent bleeding per rectum for 2 years.
- Colonoscopy showed prominent rectal varices - CT angiogram showed normal intrahepatic portal vein with evidence of portosystemic shunt between inferior mesenteric vein and right internal iliac vein which appears dilated and tortuous with multiple perirectal varices – diagnosed as Type 2 Abernethy malformation
- Balloon occlusion test of the shunt showed no significant increase in portal circulation pressure - So a single step shunt closure by coil embolization using detachable coils done

Conclusion - Abernethy malformation is a rare anomaly with multiple clinical associations. - The purpose of imaging is to identify and classify the shunt, with identification of accompanying anomalies.

Abstract ID – 1.7.007

Outcomes of Endovascular Interventions for Clinically Significant Transplant Hepatic Artery Stenosis

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Purpose
To evaluate the outcomes of endovascular interventions for clinically significant hepatic artery stenosis (HAS) post liver transplantation.

Methods
A retrospective study between January 2013 to December 2023. Clinically significant HAS was defined by the presence of either biochemical abnormalities and/or biliary complications in HAS. Clinical success is defined as post intervention residual stenosis <30%. Primary patency rate was defined as the time from the initial intervention to any subsequent intervention to maintain hepatic artery patency, first occurrence of hepatic artery thrombosis(HAT), or reaching a censored event.

Results
22 patients were included. All patients had deranged liver function at the time of HAS detection, and 36.4% developed ischemic cholangiopathy. A stenosis of > 70% was present in 59.1%, and the remaining demonstrated 50-70% stenosis. Vessel tortuosity was present in 77.3% and a kink was present in 31.8%. Technical and clinical success was 90.9% (20/22) and 95% (19/20), respectively. The primary patency rates at 1 and 2 year were 90.9% (20/22) and 68.8% (11/16), respectively. Longer patency rates cannot be reliably differentiated due to small cohort and patients' death. The 1,3,5 year overall survival rates were 100%, 88.9%, and 71.4%, respectively. No major complication. Re-intervention in 15%(3/20) [stent=2, Angioplasty=1], re-transplantation in 10% (2/20).

Conclusion
Angioplasty is an effective endovascular intervention for clinically significant HAS to prevent HAT and graft loss. Stenting could be considered in recurrences.

Abstract ID – 1.7.008

Secondary infertility rate in patients underwent uterine artery embolization (UAE) after Postpartum hemorrhage (PPH) embolization

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Objective: This study aimed to investigate the outcomes of pregnancy rate, pregnancy outcomes, and failure to conceive (secondary infertility) after uterine artery embolization using temporary versus permanent agents for Postpartum hemorrhage (PPH).

Study design: Total 53 patients who underwent UAE for PPH from 2018 to 2024 were identified retrospectively. Only 36 patients were traced by patients contact number. The patients were interviewed by phone to complete a survey of pregnancy in those seeking pregnancy. Secondary outcomes included pregnancy outcomes and resumption of menses. Univariate testing of association of pregnancy and miscarriage rate with embolic agent was performed using Fisher's exact test.

Results: Total 36 patients were reviewed with follow up of a median of 47 (range, 13-123) months after UAE for PPH. 20 patients were not trying to conceive. Of the 16 patients who attempted pregnancy, only 8 patients conceived, there was a pregnancy rate of 50 % and miscarriage rate of 1%. 4 out of 8 patients who had not conceived attempting from average of 10 months. 15 patients resumed menstruation, and the majority with unchanged frequency. Only 1 patient resumed menstruation after 1 year. Most patients underwent bilateral uterine artery embolization with bilateral femoral access (94%). The most common embolic agents used were gelfoam only (30%) and gelfoam + PVA (70%).

Conclusion: Spontaneous pregnancy with live birth and resumption of menses can occur in a majority of patients after UAE for PPH. Secondary infertility rates were 25 % (4 out of 8) in our study.

Abstract ID – 1.7.009

Factors affecting the primary patency of stents placed for steno occlusive Iliac lesions: A retrospective study

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Objective: We retrospectively evaluated the long-term outcome of iliac arterial stent placement that was done in a single institution for 7 years

Materials and Methods: From Jan 2018 to Dec 2004, 43 patients who underwent iliac arterial stent placement (mean age; 64 8.8 years) were followed up for evaluating the long term stent patency. The follow up period ranged from one month to 84 months (mean; 31 25.2 months). The factors analysed for their effect on the patency of stents were age, the stent type and diameter, lesion length, run off score, calcium burden score (pre procedure CTA), anatomy of Aortic bifurcation and TASC status (CTA/DSA). Follow-up included, Rutherford clinical stage, colour Doppler sonography and angiography and/or CT angiography in suspected Instent stenosis cases. For comparison of parameters, Student's t-test was used ($p < 0.05$). A log-rank test and cox regression analysis were used to compare differences in patency and possible predictors such as the anatomy of the aortoiliac bifurcation, calcium burden score, distal run off and TASC status.

Results: 52 stents were placed in iliac arteries of 43 patients. The technical success rate was 100 %. The 5 years survival rates and primary patency were 80.2 % and 76 % respectively. Secondary intervention was performed in 4 patients.

Conclusion: Iliac arterial stent placement is a safe treatment long term patency. Pattern of aortoiliac atheromatous disease and the distribution of the underlying lesions have a significant influence of the primary patency rates for occlusive iliac disease.

Abstract ID – 1.7.010

Endoleak in TEVAR/EVAR Interventions: Causes, Classification, and Management

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Introduction: Endovascular abdominal and thoracic aortic aneurysm repair and are widely used to treat increasingly complex aneurysms. Endoleak (EL) represents blood flow outside stent graft but within the aneurysm sac. Endoleaks remain a challenge for aortic specialists, conferring a need for long-term surveillance and reintervention. This study reviews the aetiology, significance, management strategy and techniques for different Endoleak types.

Classifications: Endoleaks are classified on the basis of their anatomic site and aetiology. Type 1 and type 2 endoleaks (EL1 and EL2) are the most common endoleaks necessitating intervention.

Management: CTA is the main imaging investigation for assessing and characterising secondary endoleaks. EL1 endoleaks are high pressure and require prompt treatment. The main endovascular therapeutic options for EL1 include EndoAnchors, aortic cuffs and embolisation. EL2 are low pressure, often benign and only warrant treatment if associated with a sac size increase of at least 5 mm. An occult EL1 and EL3 should be considered and excluded when facing a suspected EL2 with increasing sac size. Embolisation is the mainstay treatment for EL2 with increasing sac size. Techniques for catheterising the endoleak sac in EL2 include transarterial, transiliac paraendograft, direct sac puncture and transcaval embolisation. Key points: The primary therapy for type 1, 2 and 3 endoleaks after EVAR and TEVAR involves endovascular methods in the majority of cases. Therapeutic options are insertion of additional endografts in conjunction with additional endovascular methods, e.g. EndoAnchors, chimneys, etc. Embolisation plays a key role in the treatment of type 2 endoleaks.

Abstract ID – 1.7.011

Glue Embolization for The Management Of Hand Arteriovenous Malformations: A Single-Centre Retrospective Cohort Experience

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PURPOSE
This study aimed to evaluate the safety and outcome of image-guided embolization for treat¬ing arteriovenous malformations (AVMs) of the hand using glue (NBCA-lipiodol combination).

MATERIALS & METHODS
A retrospective, single center cohort of 11 patients with AVMs of the hand treated with 19 image-guided embolotherapies using glue was investigated. Clinical history, symptomatology, and imaging findings were assessed to evaluate clinical outcome (symptom-free, partial relief of pain, no improvement of pain, and clinical progression despite embolization), lesion devascularization (total, 100%; near-total, 90%-99%; substantial, 70%-90%; partial, 30%-70%; and failure, 0%-30%), and peri- and postprocedural complication rates (major complications classified according to CIRSE guidelines).

RESULTS
Patients were treated for pain (93.3%), skin ulceration (46.7%), and local bleeding (33.3%). The mean number of embolotherapies was 1.72. Clinical outcome after a median follow-up of 18 months revealed an overall response of 10/11 patients (90.9%). Imaging at last follow-up revealed 70%- 99% reduced vascularization in 9/11 patients (81.8%) including 2 patients (18.2%) with a near-total devascularization of 90%-99%. Peri- and postprocedural complications occurred in 8.5% and 31.5%, respectively. No major complications were observed. Involvement of the finger was associated with increased rates of persistent symptoms compared to the other groups (P = .049). No significant difference between the embolic agent volume injected and complication rates was found (P = .372).

CONCLUSION
Image-guided embolization using NBCA-based liquid embolic agents is effective for treating AVMs of the hand.

Abstract ID – 1.7.012

Endovascular rescue for GI bleeding: Technical success and clinical outcome in a single center experience

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Background: Non-variceal gastrointestinal bleeding is a life-threatening condition which can be managed by transcatheter embolization.

Aim: To evaluate technical, clinical success, complication and mortality rate of endovascular treatment of acute non-variceal gastrointestinal bleeding.

Methods and Materials:
This single-center one year retrospective-study included 21 patients with clinically significant non-variceal GI bleeding. Of these, 18 underwent DSA with 17 undergoing super-selective embolization using various embolization agents. Technical, clinical success and recurrent bleeding rates assessed. Adverse events rates evaluated by SIR guidelines.

Results:
·21 patients with clinically significant GI bleeding included 14 men and 7 women, mean age 27.5 years. Clinical presentation: Hematemesis/ melena – 15, Hematochezia – 6, Additional hemorrhagic output via drain – 2. Etiology: Pancreatitis-related: (10/21), Tumoral: (4/21), Post-traumatic: (4/21), Angiodysplasia: (2/21), Idiopathic causes: (1/21), Bleeding sites were identified in 17 among 18 patients who underwent DSA: Splenic artery - (6/18), SMA branches - (4/18), GDA – (3/18), RHA – (2/18), IMA branches – (2/18). Embolization agents used: Microcoils only (8/18), Microcoils with glue (3/18), 300–500-micron PVA particles (4/18), Microcoils with gelfoam (2/18). Technical success: 17/18 (94.4%). Clinical success: 16/18 (88.9%). Minor complications: non-target coil embolization, splenic infarction. One patient experienced rebleeding requiring repeat embolization but subsequently expired.

Conclusion: Transcatheter embolization has high technical and clinical success rates in management of patients with non-variceal GI bleed with acceptable level of complications.

Abstract ID – 1.7.013

A Retrospective Cohort Study of Anatomical Factors Affecting Stent Graft Migration after Thoracic Endovascular Aneurysm Repair (TEVAR)

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Background: Stent graft migration is one of the major causes of TEVAR failure in long-term follow-up.

Objectives: This study evaluated the incidence, risk factors, and complications of stent graft migration after TEVAR.

Materials and Methods: A retrospective analysis was conducted of 143 patients undergoing thoracic aortic diseases between January 2015 and June 2024 with a minimum imaging-based follow-up of 6 months. 97 (67%) patients had Thoracic Aortic Aneurysms (TAA) and 41 (29%) patients had of Aortic Dissection. Migration was defined as a stent graft shift of >10 mm relative to a primary anatomic landmark. A standardized measurement protocol was used along the greater curvature of the aorta to look for graft displacement. Other factors analyzed were type of aortic arch, proximal landing zone length, change in the length of the aorta (ΔL), and change in tortuosity index (ΔT).

Results: Endograft migration occurred in 11 (7.6%) of cases and took place in the proximal Landing Zone (n = 2), overlapping zones of the endograft (n = 5), and in the distal landing zone (n = 4), resulting in Type 1 and Type 3 endoleaks (n = 9). Freedom from endograft migration was 99.2% after 1st year, 95% after 3 years and 90% after 5 years. Aortic elongation (ΔL) and TAA were identified as predisposing factors for migration (p = 0.002 and p = 0.05, respectively).

Conclusions: Graft migration can occur after TEVAR in a relevant proportion of patients, predominantly in patients with TAA and aortic elongation.

Abstract ID – 1.7.014

Long-term outcomes of TEVAR for Thoracic Aortic Aneurysms - A single center retrospective study

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Introduction:
TEVAR (Thoracic Endovascular Aneurysm Repair) is the standard of care for DTA and arch aneurysm. Existing literature shows excellent short-term outcomes of TEVAR for arch and DTA aneurysms. However, literature regarding long-term (>10 years) outcomes of TEVAR is scarce.

Aims:
To present long-term (15 years) outcomes TEVAR

Materials and Methods:
A retrospective study design included all patients undergoing TEVAR for thoracic aortic aneurysms between January 2008 and December 2023. A total of 115 patients underwent TEVAR for thoracic aneurysms – out of which 10 patients expired in the initial 30 days post-TEVAR. Thus, a total of 105 patients were considered for analysis. Statistical analysis was done separately for arch and DTA aneurysms. Kaplan–Meier and Cox Regression analyses were used to determine the long-term outcomes

Results:
Of 105 patients, 62 patients (59%) had arch aneurysms, while the other 41% had DTA aneurysms. The median follow-up duration was 56 months, with an overall survival of 57%. 32% of patients developed endoleak in follow up and 9% of the patients underwent re-intervention. Overall, aneurysm sac shrinkage was seen in 70% of patients. Multivariant Cox Regression revealed the presence of Chronic Obstructive pulmonary disease (OR: 7.82, p-value – 0.002) and chronic renal disease (OR: 4.2, p-value – 0.001) were independent survival risk factors. No significant survival difference between arch and DTA aneurysm groups (p value – 0.565).

Conclusions:
TEVAR has a favourable outcome concerning aneurysm sac regression.

Abstract ID – 1.7.015

The efficacy and safety of celiac artery angioplasty and stenting as definitive treatment in patients with median arcuate ligament syndrome (MALS) in a tertiary care center

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Purpose
To delineate the outcomes of celiac artery angioplasty and stenting for Median Arcuate Ligament Syndrome (MALS) in a tertiary care center.

Materials and methods
This is a retrospective study of celiac artery angioplasty and stenting for MALS between 2016 and 2024. Technical success was defined as ability to achieve good flow (<30% stenosis).
Follow up with imaging was at 1 week, 1-, 6-, and 12-months. Stents were considered patent if stenosis was <30%. Clinical patency was absence of symptoms. Periprocedural morbidity and mortality were defined as adverse events within 30 days of procedure.

Results
The study includes 32 patients. Statistical analysis was performed with appropriate tests. Average age was 42.3 years with 21 females and 11 males.
Patient complaints included post prandial abdominal pain, food fear, loss of appetite, loss of weight and loose stools. Medical comorbidities included hypertension, diabetes, tobacco use and coronary artery disease. Celiac arterial compression due to MALS ranged from 70% to 100%.
Technical success was achieved in 97%. Complete symptomatic relief was obtained immediately post procedure in 93% and in rest over 4 weeks. 30-day morbidity rate was 0%. Clinical and primary patency at 1 year were 100%.

Conclusion
Surgical repair has been definitive treatment for MALS. Our study shows that celiac artery angioplasty and stenting has high technical success rate with low complication rates. This might help mitigate complications of open surgical repair and favor celiac artery angioplasty and stenting as definitive treatment in MALS.

Abstract ID – 1.7.016

Efficacy and Long Term Outcomes Of Endovascular Interventions in Budd-Chiari Syndrome - A Retrospective Analysis

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Purpose: Endovascular interventions [hepatic vein (HV) / inferior vena cava (IVC) angioplasty/stenting or Direct IVC to portal vein shunt (DIPS)] are commonly performed in patients with Budd-Chiari Syndrome. However, their long-term patency and outcomes are not well known.

Methodology: Medical records of patients of Budd-Chiari Syndrome (BCS) who underwent endovascular interventions from 2010 to 2022 having minimum 2 years follow-up were retrieved. Laboratory and clinical parameters, type of endovascular intervention, outcomes & patency rates were studied.

Results: 161 patients of BCS underwent 103 recanalization procedures (Angioplasty/stenting of HV/IVC), 58 DIPS & 46 DIPS revisions. The DIPS group had significantly deranged baseline laboratory and clinical parameters compared to recanalization group ($p<0.001$). Post intervention, there was significant improvement in both the groups ($p<0.05$), however the lab parameters remained elevated in DIPS group compared to recanalization group throughout the course of follow-up ($p<0.001$) with more number of repeat procedures performed in DIPS group. Patency rates at 1 & 5 years were 96% & 92%, 82% & 45%, and 100% & 60% in recanalization, DIPS & DIPS revision groups, respectively. Overall survival at 1, 5 & 10 years was 92% in recanalization group while 88% in DIPS group.

Conclusion: Endovascular interventions for BCS provide excellent long-term transplant-free survival & outcomes. Clinical improvements were similar in both groups, however laboratory parameters were elevated in DIPS group compared to recanalization group throughout the course of follow-up with more number of repeat procedures in DIPS group, suggesting a severe form of disease in this subset of patients.

Abstract ID – 1.7.017

Rethinking Trans-Radial Access: Distal Trans-Radial Access in Neuro & Body Vascular Interventions- A Randomized Controlled Trial

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Purpose:
To compare the feasibility, technical success & complication rates of conventional vs distal trans-radial artery access in non-coronary endovascular procedures.

Materials and Methods:
A prospective randomized controlled trial was conducted enrolling 56 patients aged above 18 years undergoing non-coronary endovascular procedures. Patients were randomized into two groups: Conventional Radial Access (CRA) and Distal Radial Access (DRA) at the anatomical snuff box. Ultrasound-guided access was performed in both groups. Primary endpoints were defined as the completion of the procedure without access-site crossover. Secondary endpoints included rates of spasm, thrombosis & other access-related complications.

Results:
Technical Success: Achieved in 94.6% of patients. Conversion to femoral access was required in 5.3% of cases due to steep vessel angulation.
Complication Rates: Thrombosis: Observed in 12.5% overall, with higher rates in CRA (17.8%) vs. DRA (7.1%; p=0.25). Hematoma: Occurred in 3.5%, exclusively in the CRA group. Spasm: Documented in 25% of patients, more frequent in CRA (16%) compared to DRA (9%). Radial Artery Characteristics: Mean radial artery diameter was larger in CRA (2.11 mm) than DRA (1.83 mm; $p < 0.05$). Other Observations: Vessel wall calcification was significantly associated with arterial spasm ($p < 0.05$), impacting procedural ease.

Conclusion:
Both conventional & distal radial artery access demonstrated high feasibility and technical success rates for non-coronary endovascular procedures. Distal radial access was associated with lower thrombosis and spasm rates, making it a preferred approach in suitable patients, supporting its adoption to enhance procedural efficiency and patient outcomes.

Abstract ID – 1.7.018

Retrograde transvenous obliteration (RTO) versus endoscopic ultrasound (EUS)-guided therapies in management of fundal varices- A multicentric propensity-matched analysis

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Purpose-
To compare the outcome of RTO and EUS-guided therapies in the management of fundal varices.

Materials and Methods-
We retrospectively analyzed the data of patients with fundal varices undergoing EUS-guided intervention or RTO from ten tertiary care centers in India, and both groups were compared after propensity matching. The study's primary outcome was the incidence of variceal bleeding within 1 year. The secondary outcomes included procedure-related adverse events (AEs), variceal obliteration, reintervention, and mortality within 1 year.

Results-
167 patients (EUS-guided intervention: 108, RTO: 59) were included in the analysis, of which 59 patients were included in each group after propensity matching. The incidence of variceal obliteration at 4 weeks was comparable between groups (83.1% vs. 91.5%, p = 0.167). The incidence of variceal bleeding (15.3% vs. 13.6%, p = 0.793) within 1 year was also comparable between the EUS and RTO groups. Nevertheless, the need for reintervention for GVs was higher in the EUS group (28.8% vs. 5.1%, p = 0.001), and the need for reintervention for esophageal varices (EVs) was higher in the RTO group (16.9% vs. 1.7%, p = 0.008). Procedure-related adverse events (AEs), primarily new onset or worsening of ascites, were higher in the RTO group. None of the AEs were life-threatening.

Conclusion-
RTO provides more complete fundal variceal obliteration, requiring a significantly lower number of reintervention than EUS-guided therapies. Thus, RTO may be considered as a more definite therapy for fundal variceal obliteration.

Abstract ID – 1.7.019

Selective Adrenal Artery Embolization in unilateral functional Adrenal Adenoma

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Learning objectives
Embolization of adrenal adenoma using a high concentration of Alcohol.

Background
Laparoscopic adrenalectomy is the most common surgical procedure used to treat functioning adenomas. With a comparable biochemical and clinical success rate to surgery (82% vs. 90%), selective adrenal arterial embolization (SAAE) is an equally effective and alternative treatment option.

Clinical findings/Procedure details
A 23-year-old male patient presented with complaints of episodic weakness in all four limbs which progressed to flaccid paralysis over the last year. He was found to have low serum potassium (3.2 mmol/dl), raised BP (140-150/90-100mm of Hg), raised urine k+ levels (82.9 meq/g), serum aldosterone (19.2 ng/dl, raised), direct renin concentration (<0.5 u IU/ml) which pointed towards suspicion of primary aldosteronism. CT angiography of the whole abdomen revealed a left adrenal lesion measuring~ 14x8x15mm. The arterial supply was from the left renal artery and splenic artery. DSA of the left renal artery, celiac axis, and splenic artery was performed which revealed blush from the inferior adrenal artery arising from the left renal artery. Selective cannulation was done by a 1.8 Fr micro-catheter with 0.014'' BMW wire. High-concentration alcohol(0.8ml of 70%) with contrast was injected intermittently till the complete disappearance of blush. Post-procedure showed reduced serum aldosterone levels(12.9 ng/dl) with increased direct renin concentration (0.9 u IU/ml).

Conclusion
Selective adrenal artery embolization with high-concentration alcohol is an effective alternate therapy.

Abstract ID – 1.7.020

Pediatric Renovascular Hypertension: A Tertiary Care Centre Experience

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Learning Objectives:
1. Understand the etiology of pediatric renovascular hypertension (RVH).
2. Discuss interventional radiology options for cases resistant to medical therapy.

Background:
Pediatric hypertension, defined as systolic blood pressure above the 95th percentile for age, sex, and height, includes up to 10% of cases attributed to RVH. RVH results from renal artery stenosis (RAS), activating the renin-angiotensin system. Fibromuscular dysplasia (FMD) is the most common cause in developed countries, while Takayasu arteritis (TA) predominates in Asia and Africa. Other causes include syndromic conditions (e.g., NF-1, Marfan's) and nonsyndromic factors like hypercoagulable states.

Clinical Findings:
Initial treatment for pediatric RVH includes antihypertensives, though ACE inhibitors and ARBs are avoided in bilateral RAS. In cases with arterial stenosis caused by intimal hyperplasia, interventional options include renal angioplasty, ethanol embolization, aortic angioplasty, and stenting. Percutaneous balloon angioplasty is the most widely used technique in children, while surgery is reserved for long or complex stenoses (>10 mm).

Conclusion:
Renovascular hypertension is a key cause of secondary hypertension in children. Endovascular therapies, particularly angioplasty, are effective in selected cases and yield favorable outcomes. This exhibit highlights the etiology, intervention strategies, and case-based approaches for pediatric RVH, along with a review of complications and management strategies.

Abstract ID – 1.7.021

TEVAR in Aortic Dissection: A Tertiary Care Centre experience

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Purpose: To evaluate long-term outcomes and disease progression in aortic dissection cases treated with conventional or hybrid TEVAR over the past decade at a single institute.

Materials and Methods: This retrospective study included aortic dissection cases from 2012 to 2024 treated with conventional or hybrid TEVAR. Data from 65 cases were analyzed for procedure indications, stent usage, pre- and post-procedure changes in DTA diameters, complications, and mortality. Follow-up ranged from 1 month to 10 years (mean 28.4 months).Kaplan–Meier estimates were used for survival and re-intervention analysis. Uni-variable and Multi variable Cox Regression was done to evaluate patient risk-factors related to mortality and unfavourable remodeling. Wilcoxon signed rank test was used to determine the anatomical factors in the pre-op CTA predictive of unfavourable remodeling.

Results: The 30-day all-cause mortality rate was 15%. Long-term all-cause mortality was 18.3% at 1 year and 28.3% at 5 years. Neurological complications, including embolic stroke and paraplegia, occurred in <5% of cases. CT follow-ups showed aneurysm sac regression in 80% of cases. Predictors of unfavorable remodeling included intimal tear number and location, dissection type, and aortic tortuosity. Emergency TEVAR was linked to higher rates of endoleak, neurological complications, and mortality.

Conclusion: This study, one of the first in the country, evaluates long-term TEVAR outcomes for aortic dissection in a large sample population. Pre-TEVAR imaging features have significant predictive value for disease progression.

Abstract ID – 1.7.022

Genicular artery EmbolizatioN: Indian Experience (GENIE) – Intermediate term outcomes

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Purpose
Genicular artery embolization (GAE) has been shown to reduce the severity of pain in knee osteoarthritis (OA) patients in international studies. There is no data on the safety and outcomes of GAE in Indian population.
To report the immediate and intermediate term outcomes of GAE in Indian population, with regards to pain score reduction and safety.

Materials and methods
Single centre prospective study of all patients who underwent GAE for OA knee pain from February to October 2024 was performed to assess the improvement in pain score (Visual analogue pain score (VAS) and WOMAC) at 2 weeks and 3 months post procedure and for any procedure related complications. Patients with all grades of OA who were not willing or eligible for knee arthroplasty were included in the study.

Results
75 patients underwent GAE. The majority of patient were grade 4 OA (58/75, 78.4%). The average improvement in VAS score was 59.8 (69%) (SD 2.3) at 2 weeks and 50.5 (58.03%) (SD 2.97) at 3 months. The average improvement in WOMAC score was 52.4% at 2 weeks and 56.4% at 3 months. There were no major complications. 5 patients had minor complications (skin discolouration around the knee in 2 and 3 patients had minor groin bruise) which resolved with conservative measures.

Conclusion
GAE appears to be safe and effective in improving OA knee pain in Indian patients with intermediate term results comparable to the literature on international patients.

Abstract ID – 1.7.023

Angioplasty in perianastomotic arterio-venous fistula failure in dialysis access: stenosis versus occlusion

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Purpose:
Perianastomotic AVF failure in dialysis access is often managed with surgical revision/proximalisation. KDOQI 2020 guidelines favor native vascular access due to superior patency rates and fewer complications. We are analyzing long-term follow-up of fistuloplasty to assess outcome in stenosed versus occluded AVFs.

Materials and methods:
This retrospective, single-center study analysed 570 fistuloplasties, performed in 469 patients (M:F=2.4:1, mean age=66.3 years) over 10 years (between 2014 and 2024), comparing outcomes in stenosed and occluded AVFs. Lesions included 226 stenoses and 243 occlusions (162 short, 81 long). Mean interval between fistula failure and intervention was 6.5 days. Complications, primary and assisted patency were assessed with Kaplan Meier statistics with censoring of patients who died or transplanted with a working AVF.

Results:
Technical (TIMI3 flow) and clinical (one successful dialysis) success rates were 96% and 94%, respectively. Primary and assisted patency rates were higher for stenosed (20 and 26 months) than for occluded AVFs (15 and 21months; p=0.03). One-, two-, three-, and five-year patency rates were 80%, 65%, 50%, and 21% for stenosis, compared to 70%, 55%, 30%, and 21% for occlusion. Mean annual reintervention rates were similar (0.64 and 0.65), with major complications in 2.4% of cases.

Conclusion:
Long-term patency can be achieved even in occlusions, although outcomes are superior in stenosis. Maintaining a patent AVF for 22-23 months post-intervention significantly improves survival. This study represents the largest series of endovascular salvage for stenosed/occluded AVFs.

Abstract ID – 1.7.024

Transarterial embolization for chronic Achilles tendinopathy refractory to conservative management

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Purpose
Transarterial embolization (TAE) has established role for treatment of tendinopathy and enthesopathy refractory to conservative management in adhesive capsulitis, medial and lateral epicondylitis and knee osteoarthritis. However, substantial evidence for transarterial embolization in achilles tendinopathy treatment are lacking. It is only the second study in world and first in India evaluating the effectiveness and safety of transarterial embolization (TAE) for chronic Achilles tendinopathy (AT) refractory to conservative treatment

Materials and methods
This study included 20 limbs in 18 patients (mean age, 46 years) having clinically diagnosed achilles tendinopathy who had not responded to conservative treatment for at least 3 months. On preprocedural MRI, diagnosis was confirmed for these patients and grading was done based on Pomeranz scale for achilles tendinopathy patients. Patients having complete achilles tendon tear were excluded. All patients underwent super selective embolization of arterial branch showing hypervascularity or supplying area of pain on DSA using imipenem as embolising agent. Clinical and pain evaluation was done using the and visual analogue scale (VAS). Victorian institute of sports assessment – achilles questionnaire (VISA-A) was also used for clinical evaluation.

Results
Technical success achieved in 90% (18/20) cases. Significant decreases in the VAS and VISA-A scores were noted during follow up (P value <0.01) as shown in figure 1. No serious adverse events were observed during follow-up.

Conclusions: Transarterial embolization using imipenem may alleviate pain for patients with chronic achilles tendinopathy refractory to the conservative treatment with a low risk of adverse events.

Abstract ID – 1.7.025

Super selective Trans arterial embolization using Imipenem for Plantar fasciitis refractory to conservative management

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Purpose: Mainstay of management for plantar fasciitis (PF) remains conservative management and various injection techniques. However, most patient suffer from persistent pain despite conservative management for 3-6 month. This study was done to assess safety and efficacy of super selective trans arterial embolization for PF.

Materials and methods: Total of 12 patients (mean age: 36 years) having clinical diagnosis of refractory PF were recruited in this study who underwent angiography after confirmation of diagnosis in MRI. Before angiography, area of maximum tenderness was marked by applying radio-opaque marker over overlying skin. Ipsilateral antegrade femoral access was taken. All patients showed hyper vascular staining/ blush in region of origin of plantar fascia and super-selective trans arterial embolization was done by cannulating small arteries arising from PTA or peroneal artery using 1.8 Fr microcatheter using imipenem suspension. Super selective embolization could not be done in one patient (8.3%) due to persistent spasm of branch artery supplying region of blush. Baseline visual analogue pain score was compared with post procedure pain scores at 1 day, 1 week, 1 month, 3 months, 6 months, 9 months and 12 months.

Results:
Technical success was achieved in 91.7 % cases (11/12). There was significant (P value <0.05) persistent improvement in pain scores during follow up with baseline pain score of 7.36 ± 0.92 and 1-year pain score of 3 ± 1.5.

Conclusion
Trans-arterial embolization using imipenem is a promising technique to alleviate refractory pain related to plantar fasciitis.

Abstract ID – 1.7.026

To describe the technique of transjugular metal cannula assisted HV/IVC recanalization and evaluate its technical success rate: A high- volume centre experience

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Background
Described techniques for recanalizing an obstructed hepatic venous ostium in Budd Chiari include transjugular approach with a catheter wire combination; if unsuccessful, percutaneous approach is used or else DIPS is done.

Aims
We aim to describe the technique of TJLB metal cannula assisted recanalization of HVs/IVC via transjugular and transabdominal ultrasound guidance and evaluate its safety and efficacy.

Material and Methods
We retrieved the hospital records of 207 patients with BCS who got treated at our IR facility between 2013 to 2021 and identified patients who underwent transjugular/ percutaneous recanalization/ DIPS. Technical success, clinical success, primary patency, and complications of HV endovascular vs percutaneous recanalization vs DIPS were analyzed.

Results
Out of 207 patients, IVC+ HV type involvement was seen in 74 patients, only HV in 107 patients and IVC in 26 patients. IVC recanalization was successful in 24 out of 26 patients. HV recanalization was achieved via transjugular route in 148 patients (81.7%) and via percutaneous +/- transjugular approach in 13 patients (7%). DIPSS was done in 20 patients after failure to recanalize HVs (11%). Overall success of Metal cannula assisted Transjugular HV/IVC recanalization was achieved in 172 patients (83%). Complications included pericardial effusion (n=1), pericardial tamponade (1), hemoperitoneum (1), Heparin induced hemoperitoneum (2), HV dissection (2), sepsis (1) and liver abscess (n=1).

Conclusion
Metal cannula assisted HV/IVC recanalization technique has enabled higher technical success via transjugular route, thus reducing dependency on more complicated percutaneous route and conversion to DIPSS.

Abstract ID – 1.7.027

Outcomes of Arteriovenous Fistuloplasty via Distal Transradial Access

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Background:
Arteriovenous fistula (AVF) is an important dialysis access for end-stage renal disease patients. However, maintaining functional patency can be challenging due to stenosis or thrombosis. Fistuloplasty has proven effective in optimizing AVF function. The use of distal radial artery (DRA) access for fistuloplasty is underexplored. This study aimed to evaluate the outcomes of fistuloplasty via DRA access.

Methods:
A retrospective review was conducted on patients undergoing AVF interventions via DRA between March 2023 and June 2024. Technical success was defined as achieving distal radial access. Follow-up assessments of patency were conducted at 1, 3, 6, and 12 months. Intraoperative complications were documented.

Results:
45 AVFs were treated via DRA where 51% of the patients had radiocephalic fistula, 33% brachocephalic and 9%, 4.5% & 2% had brachiobasilic, radio-median cubital and brachio-medial cubital respectively. There was 100% technical success in all the patients. 22 patients were followed up for 12 months, and they had functional fistulas at the end. 23 patients had less than a 12 month follow-up period out of which 78% have functional fistulas, 13% required new fistula creation and 9% required a repeat fistuloplasty to establish patency. In total, 93.3% had post-intervention fistula patency at a 6-month interval. There were no intra-procedure complications.

Conclusion:
This study highlights the effectiveness of using DRA for AVF interventions. The high technical success rate and favorable patency outcomes support DRA as a viable access site for fistuloplasty. The findings suggest that DRA may be particularly advantageous for direct AVF access.

Abstract ID – 1.7.028

Post EVAR - Temporal analysis of Type 2 - Endoleak over one year and analysis of factors impacting persistent Type 2 Endoleak - Single center study

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Background:
Type 2 Endoleak following EVAR is the most common complication, observed on follow up, and most of the time it's benign, not needing any emergent intervention, sometimes resolving on follow up and hence, are followed up at close interval till resolution.

Aim:
To analyse the temporal changes of Type 2 endoleak - spontaneous resolution vs persistent endoleak over one year - post EVAR procedure, and factors affecting persistent Type 2 Endoleak.

Methods and Materials:
This single-centre, retrospective observational study involved 31 patients who underwent EVAR and showed Type 2 Endoleak on first follow up imaging, and were followed up for one year.

Results:
Of these 31 patients, 17 cases had spontaneous resolution of endoleak at one year follow up and 14 cases showed persistent Type 2 endoleak. Almost, 78.5% cases with persistent endoleak had showed early staining of contrast within the aneurysm sac in immediate post procedure angiogram. An univariate analysis showed that this finding was most consistent in cases with persistent leak - p value of <0.009 (At 95% confidence interval - 57 to 100%).

Conclusion:
Early appearance of contrast within the aneurysm sac in post-procedure angiogram appears to be the one finding consistent in most cases of persistent Type 2 endoleak, indicating retrograde high-flow collateralisation leading to persistent leak without resolution on follow up.

Abstract ID – 1.7.029

A Rare Presentation of Primary Hepatic Tuberculosis - Case Report

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Learning Objectives: Primary hepatic tuberculosis is an extremely rare condition as it represents 1% of extra-pulmonary locations.
We have demonstrated a case of primary hepatic tuberculosis with having portal vein thrombosis, biliary stricture and hepatic arterial mycotic aneurysm which is not documented in any literature till date.
Hepatic arterial mycotic aneurysm repair was done using PVA particles.

Background: Here, we report a young lady presented to emergency department with massive haematemesis.

Clinical Findings/Procedure details: After hemodynamic stabilization, she underwent multiple investigations. Blood investigation showed cholestatic pattern of deranged liver function test. On endoscopy, there was fresh blood trickling from the ampula of vater. Chest computed tomography revealed no obvious abnormality. Ultrasound revealed multiple hepatic abscesses. She underwent contrast enhanced CT study that revealed hepatic abscesses, and there was right antero-superior portal venous branch thrombosis leading to transient hepatic attenuation difference, involving these segments. A tiny mycotic aneurysm was detected involving segment VIII branch of right hepatic artery. On Magnetic Resonance Cholangio-pancreatography , multiple abscesses in segment VII/VIII of liver with multiple biliary strictures and dilatation of the segment VII & VIII biliary ducts were observed. Endovascular embolization of segment VIII branch of hepatic artery harbouring the mycotic aneurysm was done using PVA particles to control upper gastro-intestinal bleeding and tru-cut biopsy specimen revealed necrotizing granulomatous inflammation constitute with tubercular etiology. She was started on 4-drug anti-tubercular therapy. She is clinically better and on follow-up.

Conclusion: Post procedure the patient was stable. The pseudoaneurysm and other complications were resolved.

Abstract ID – 1.7.030

Bronchial Artery Embolization in Chronic Pulmonary Thromboembolism: Evaluating Efficacy for Immediate Bleeding Control and Long-Term Recurrence Prevention - A Retrospective Study (2020-2023)

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Introduction: Chronic pulmonary thromboembolism (PTE) often leads to hypertrophy of bronchial arteries and bronchopulmonary collaterals, causing hemoptysis. Bronchial artery embolization (BAE) is an emerging intervention for managing hemoptysis in chronic PTE. This retrospective study (2020–2023) evaluates BAE's efficacy in immediate bleeding control and long-term recurrence prevention in 30 patients.

Methods: The study retrospectively analyzed 30 patients undergoing BAE for hemoptysis secondary to chronic PTE. Immediate success in controlling hemoptysis, recurrence rates within three days, and long-term recurrence over the study period were assessed. The need for multiple embolization procedures and associated complications was also evaluated.

Results: BAE achieved immediate bleeding control in 90% of cases. Recurrence within the first three days was observed in 13.3% of patients, with re-embolization required in 6.7%. Long-term recurrence rates were 26.7% within the first year and 40% over the entire observation period. Multiple embolization procedures were necessary for 20% of patients. Complications were minimal and primarily self-limited.

Conclusion: Bronchial artery embolization is highly effective for immediate bleeding control in patients with chronic pulmonary thromboembolism. However, recurrence, particularly in the early post-procedure period, remains a challenge. The necessity for re-embolization in a subset of patients highlights the importance of long-term follow-up. Larger, prospective studies are needed to further establish BAE’s role in managing hemoptysis in chronic PTE and to optimize strategies for reducing recurrence rates.

Abstract ID – 1.7.031

Retrospective review of percutaneous large profile aortic procedures in a tertiary vascular centre in the UK

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Aims: To evaluate the efficacy and safety of percutaneous large-profile vascular closure in aortic procedures

Methods: Retrospective review at a tertiary vascular centre. Data collected included demographic profile, anatomical characteristics, sheath and device sizes, insertion technique, complications, length of stay and follow-up results.

Results: 100 consecutive patients were included. Mean age 76 years (34 to 91). 73 elective, 16 expedited and 11 emergency procedures. 81 EVARs, 8 TEVARs and 11 others. Proglide device was used (double Preclose technique); 18 cases required additional Angioseal device. Mean main body device profile 17.4 Fr (14 to 22) and contralateral profile 14.6 Fr (12 to 18). Mean CFA and EIA diameters 10.5mm (7 to 26) and 8.7mm (5 to 13) respectively. Mean skin-to-artery distance 30.5mm (7 to 67). Conversion rate to surgical cutdown due to post-procedure device failure 5%. Access-related complications in 11 cases. Mean length of stay 3.6 days (1 to 48). 30-day mortality 2% (unrelated to percutaneous access). Mean imaging follow-up 42 months (4 to 118). Percutaneous aortic procedures increased from 11% in 2020/21 to 49% in 2023/24.
50 EVAR cases performed through surgical cutdown were also analyzed. Mean length of stay was 7.08 days and 30-day mortality was 8%.

Conclusions: Percutaneous vascular closure in large profile aortic procedures is safe and effective, with a high rate of technical success, low rate of access-related complications, reduced length of stay compared to surgical cutdown EVAR (p-value <0.05), and no access-related mortality.

Abstract ID – 1.7.032

Outcomes of Endovascular Interventions for Clinically Significant Transplant Hepatic Artery Stenosis

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Purpose
To evaluate the outcomes of endovascular interventions for clinically significant hepatic artery stenosis (HAS) post liver transplantation.

Methods and Materials:
A retrospective study between January 2013 to December 2023. Clinically significant HAS was defined by the presence of either biochemical abnormalities and/or biliary complications in HAS. Clinical success is defined as post intervention residual stenosis <30%. Primary patency rate was defined as the time from the initial intervention to any subsequent intervention to maintain hepatic artery patency, first occurrence of hepatic artery thrombosis(HAT), or reaching a censored event.

Results
22 patients were included. All patients had deranged liver function at the time of HAS detection, and 36.4% developed ischemic cholangiopathy. A stenosis of > 70% was present in 59.1%, and the remaining demonstrated 50-70% stenosis. Vessel tortuosity was present in 77.3% and a kink was present in 31.8%. Technical and clinical success was 90.9% (20/22) and 95% (19/20), respectively. The primary patency rates at 1 and 2 year were 90.9% (20/22) and 68.8% (11/16), respectively. Longer patency rates cannot be reliably differentiated due to small cohort and patients' death. The 1,3,5 year overall survival rates were 100%, 88.9%, and 71.4%, respectively. No major complication. Re-intervention in 15%(3/20) [stent=2, Angioplasty=1], re-transplantation in 10% (2/20).

Conclusion
Angioplasty is an effective endovascular intervention for clinically significant HAS to prevent HAT and graft loss. Stenting could be considered in recurrences.

E - POSTER PRESENTATIONS

Abstract ID – 2.1.001

Trans-jugular intrahepatic portosystemic stenting through collateral vein for the management of no-option obliterative portal vein thrombosis

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Clinical History: A 17-year-old girl with extrahepatic portal vein obstruction(EHPVO) diagnosed at age 9, presented with severe variceal bleeding. She has had 28 episodes of recurrent bleeding since age 12, despite multiple endoscopic variceal ligations. At age 13, she underwent a splenectomy. However, she was not a candidate for meso-rex shunt surgery. Despite endoscopic interventions, bleeding could not be controlled during the current hospitalization.

Treatment-options/outcomes: Imaging revealed absent native portal vein with cavernous transformation and a prominent collateral vein connecting to the superior mesenteric vein. Since trans-splenic access was not feasible, a trans-jugular collateral-TIPS procedure was planned. Under ultrasound guidance, the dominant periportal collateral was accessed through the trans-jugular route. However, after balloon dilation, a contrast run revealed active extravasation of contrast into the peritoneum, accompanied by on-table hypotension. A covered stent was deployed, successfully sealing the puncture site and ensuring proper stent flow. The patient is now asymptomatic, with no further bleeding, and is under routine follow-up

Discussion: For patients with extrahepatic and intrahepatic portal vein thrombosis, simple recanalization is often ineffective. TIPS using collateral vessels is challenging due to the lack of Glisson sheath around them, increasing the risk of liver and vessel injury. Thus, minimizing the number of punctures and ensuring sufficient guidewire support while delivering the sheath into the collateral vessel are critical.

Take-home-points: Portal cavernoma is not a contraindication to TIPS. Collateral-TIPS, although challenging, proves useful in complex situations and as a rescue procedure when the standard procedure is difficult to implement.

Abstract ID – 2.1.002

The underutilised transjugular intrahepatic approach for superior mesenteric vein stenting in a challenging case: pushing the boundaries

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Clinical-History:A 67-year-old male with chronic calcific pancreatitis and malignant obstruction of the common bile duct and main pancreatic duct presented with acute abdominal pain. Imaging revealed tumor infiltration of the superior mesenteric vein(SMV) and an acute thrombus, causing small bowel ischemia. Due to inadequate response to anticoagulation, the patient was referred for endovascular management.
Treatment-outcomes:Due to moderate ascites and ongoing anticoagulation therapy, a percutaneous approach was deemed risky, so a transjugular approach for portal-vein access was planned. Patient was taken up for SMV intervention before biliary dilatation could resolve completely. The right IJV was accessed, and the right hepatic vein was cannulated. Under ultrasound guidance, right posterior branch of the portal-vein was accessed from the right hepatic vein by carefully threading the needle between the hepatic artery branch and the dilated biliary ducts. The SMV obstruction was crossed, followed by balloon angioplasty and thrombolysis. Due to residual stenosis, a 10x80mm self-expanding stent was deployed. The liver tract was left to close naturally. The patient's pain resolved within a day, and he was discharged a week later with stabilized bilirubin levels and resolved ascites
Discussion:The percutaneous approach to accessing the portal venous system may not be suitable in cases of coagulopathy, refilling ascites, or recent vascular events. Expertise in the transjugular intrahepatic approach can improve therapeutic success in these situations.
Take-home-points:Transjugular intrahepatic route is a safer, but underutilised option than percutaneous route for accessing the portal-venous system, especially in patients with high risk of bleeding

Abstract ID – 2.1.003

Off-label emergency paediatric TEVAR for traumatic aortic injury

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A 16-year old male patient was brought to the Major Trauma Centre emergency department following a motor vehicle collision. His CT scan revealed multiple injuries including a complete aortic transection with mediastinal haematoma and a left haemothorax. Tertiary centre Cardiothoracic surgery opinion suggested 25% mortality risk and recommended endovascular intervention. There were multiple adverse features for TEVAR including inadequate proximal landing zone and small diameter aorta. Considering the risk-benefit ratio, the overall consensus was in favour of off-label emergency thoracic endovascular aortic repair (TEVAR), which was performed under GA. Following surgical cutdown on the right groin and percutaneous access via the left groin, a single-piece 22mm x 100mm Gore CTAG aortic graft was deployed immediately distal to the left common carotid artery (LCCA), intentionally covering the left subclavian artery (LSA). Final angiogram confirmed satisfactory position of the graft with no residual aortic abnormality. His post-operative recovery was complicated by right lower limb ischaemia due to thrombosis, which was successfully managed using a combined endovascular/surgical approach. He continued to make a good recovery with no obvious ongoing clinical problems relating to the aortic injury. His follow-up CT scan showed satisfactory appearances with excellent remodelling of the thoracic aorta, no endoleak, patent LCCA and occluded LSA origin, which remained patent beyond.
In the setting of life/limb-threatening emergencies, multi-disciplinary team approach and decision-making is vital, especially in the context of off-label use of endovascular solutions.

Abstract ID – 2.1.004

Emergency TEVAR with aberrant right subclavian artery occlusion

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An 85-year old female was brought into the MajorTraumaCentre following a road-traffic collision. CT scan showed extensive chest injuries including a thoracic aortic dissection, multiple rib/pelvic/spinal fractures, pneumothorax, lung contusions and pneumomediastinum. She had an aberrant right subclavian artery (RSA), and the right vertebral artery originated from the right common carotid artery. In view of mechanism of injury, absence of previous imaging and radiological appearances, traumatic nature of aortic injury could not be excluded, and therefore thoracic endovascular aortic repair (TEVAR) was discussed. She was not a good candidate for carotid-subclavian bypass. Informed consent was obtained including the risk of right upper limb ischaemia. Under local anaesthetic, bilateral percutaneous CFA access was obtained; double Proglide predeployment performed on the right side. A 6-Fr sheath was advanced into the aberrant RSA origin, which was occluded using an Amplatzer plug. The sheath was upsized, and TEVAR was performed using a 28mm x 15cm Gore CTAG aortic device placed distal to the left subclavian artery origin. Completion angiogram showed satisfactory results. Her follow-up CT scan showed no residual dissection, and patent right upper limb arteries distal to the occluded RSA. She was asymptomatic clinically and had no right upper limb ischaemic symptoms. In the setting of life/limb-threatening emergencies, multi-disciplinary team approach and decision-making is vital, especially in the context of complex endovascular solutions with potential serious adverse effects. In this case, occlusion of the only main blood supply to the right upper limb did not cause any clinically significant complications.

Abstract ID – 2.1.005

Killing Two Birds in One Stone: Multi-system embolisation for the Bariatric Conundrum

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Clinical History
A 68-year-old female weighing 128.6kg with morbid obesity, BMI of 51.8kg/m2 and Stage 4 EOSS (Edmonton Obesity Staging System) mandating aggressive measures for managing obesity. Advised total laparoscopic hysterectomy with bilateral salpingo-oophorectomy for refractory post-menopausal bleeding. She was considered a very high-risk candidate for general anaesthesia due to pulmonary hypertension.

Treatment
She underwent bilateral uterine artery and Left gastric artery embolisation (LGAE) through a left radial access. Post embolisation period was uneventful. She experienced significant reduction in appetite and lost 7.6kg in one week. The bleeding per-vaginum had completely stopped and she was able to do all her daily routines independently. Her weight reduced to 107kg, BMI reduced to 43.1 and EOSS improved to Stage 2 during 3 month follow up.

Discussion
LGAE for bariatric indications offers a minimally invasive option to aid in improving the quality of life of morbidly obese patients. Ghrelin (hunger hormone) secreting cells are concentrated in the fundus of stomach. LGAE reduces the serum ghrelin levels by >40% at 3 months. Surgical interventions in all morbidly obese patients usually carries moderate to high risk of peri-operative morbidity. LGAE along with UAE and genicular artery embolisations may help in treating multiple symptoms in a single session.

Take-home
LGAE is a safe and effective alternative for bariatric surgery in treating morbid obesity. Managing morbid obesity requires teamwork and interventional radiologists must be part of the bariatric medical team to assist in more than one way in managing these patients.

Abstract ID – 2.1.006

Coiling of MAPCAs in Tetralogy of Fallot: An Essential Intervention to modulate Pulmonary circulation and facilitate optimal Surgical Repair

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Clinical History- 22 years Male, case of Tetralogy of Fallot(TOF) presented with worsening symptoms. Cardiac CT with Aortogram (1)Severe Pulmonary Infundibular stenosis (2)Peri-membranous VSD (3)Right sided Aortic arch (4)Multiple Major Aorto-Pulmonary Collateral Arteries(MAPCA) diameter 3-5 mm. Main and bilateral pulmonary arteries of optimal calibre. PDA absent.

Treatment Outcome– Definitive corrective surgery with pre-operative embolization of MAPCAs. Percutaneous Trans-arterial embolization of Five MAPCAs done using micro-coils. No significant saturation drop post-procedure. Patient underwent definitive surgery and discharged.

Discussion– MAPCAs are persistence of Splanchnic circulation which are additional source of blood supply to Lungs with native pulmonary arteries in TOF with pulmonary stenosis. Massive enlarged MAPCAs can erode adjacent bronchi with resultant haemoptysis. During open heart surgery MAPCAs can cause excessive return to left heart when aorta is cross clamped on cardiopulmonary bypass, flooding operative field thus interfering surgery. MAPCAs may contribute low output throughout surgery which can cause cerebral anoxia and renal hypoperfusion and devastating postoperative sequalae. If remain undetected, can lead to pulmonary oedema postoperative and difficulty in weaning off. In long term, postoperatively patients may develop CCF refractory to medical treatment. Hence, all MAPCAs in patient with TOF with pulmonary stenosis should be closed prior to definitive surgery.

Take Home Points– Percutaneous Trans-Arterial MAPCAs embolization is safe, easy, effective and prevents the devastating long-term morbidity and mortality in patients with TOF with pulmonary stenosis.

Abstract ID – 2.1.007

From Challenges to Success

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Clinical History: 28 year male in Vegetative status. Recent Fever and Swelling in Left Loin & Groin region. Ultrasound revealed multi-loculated collection from left psoas muscle downwards in pelvis and inguinal region. Pigtail catheter drainage of collection revealed high fluid creatinine-Urinary leak. CT Urography (1)left sided hydronephrosis (2)complete proximal ureteric laceration caused by obstructive calculus (3)massive urinary leak.

Treatment options: (1)Cystoscopy guided Retrograde Ureteric Stenting (2) Percutaneous Nephrostomy(PCN) with Antegrade Ureteric Stenting. PCN was done successfully. Contrast injection revealed complete transection of proximal ureter, contrast extravasation into retroperitoneal spaces, no opacification of distal ureter. Every attempt to cannulate distal ureter was unsuccessful. Under ultrasound guidance, urinary bladder punctured over-filled with diluted contrast which luckily lead to short left sided vesico-ureteric reflux giving position of left distal ureter for cannulation. Microcatheter then directed such that curved tip of 0.014 guide wire kept towards distal ureteric stump and our attempt was successful. The distal ureteric stump was cannulated, confirmed by contrast injection, 6F ureteric stent placed successfully. Gradually percutaneous drain output reduced. Both catheters were removed after 2 weeks and patient discharged.

Discussion: This case was routine with additional Percutaneous supra-pubic urinary bladder cannulation to take benefit of vesico-ureteric reflux leading to opacification of distal ureteric stump for cannulation, in this patient having vegetative state.

Take-home points: When Conventional Treatment option fall short, Interventional Radiology procedures provide a vital effective rescue option. Embrace every possibility, for only in trying can we uncover the paths to success.

Abstract ID – 2.1.008

Dual Access Snaring Technique

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Clinical History: 57-year-old patient, case of breast carcinoma, left-IJV chemoport inserted two years ago. 6 months back, some issue with chemo-port documented. Recent Chest X-ray revealed fractured chemo-port. Fractured distal fragment was displaced with one end in IJV, other in Right Atrium(RA).

Treatment Options/Outcomes: Intravascular retrieval of catheter fragment using snare. Femoral venous access established with 11 Fr vascular sheath, advanced to RA. However, snaring attempts were unsuccessful due to free-floating nature of distal fragment in RA. Dual Access Snaring Technique employed. Right IJV venous access obtained, second snare guided along catheter fragment to capture floating catheter tip inside RA. Once this was successfully snared from right IJV access, catheter tip was fixed and directed to femoral access snare which was successful. This dual access approach was successful in snaring and retrieving the distal catheter fragment, which was secured by both femoral and IJV snares.

Discussion: This case illustrates difficulty of retrieving free floating catheter fragment, making it hard to snare using single access point. Large space inside RA allows catheter fragment to move, and mobility of fragment limits effectiveness of using only single snare. By employing dual venous access, team was able to stabilize and successfully retrieve fragmented catheter.

Take-Home Points: Innovative thinking can be crucial in complex cases where traditional retrieval methods fail. In cases where distal catheter fragment is free-floating inside a large vascular space, single snare may not suffice, and alternative techniques like dual access snaring can be highly effective.

Abstract ID – 2.1.009

Successful Endovascular Bailout Stentectomy for Damaged Stent using Endobronchial Biopsy Forceps in a case of Critical Lower Limb Ischemia

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Clinical History:
A 48 years old male patient, k/c/o CVA, epilepsy, DM, right portal vein thrombosis with gastric varices, presented with complaints of rest pain in both lower limbs (left > right) for 15 days. CT Lower limb Angiography showed bilateral lower limb atherosclerotic changes with complete occlusion of right left lower limb arteries as well as left popliteal and proximal below knee arteries.

Treatment options/ outcomes:
Patient was counselled about both endovascular and surgical options, and opted for former with initial treatment of left lower limb. Pre-procedure angiogram showed complete occlusion of left popliteal artery and proximal below knee arteries. After few passes of mechanical thromboaspiration and balloon angioplasty, dissection flap seen at popliteal artery bifurcation. Grace coronary stents placed in proximal ATA & tibioperoneal trunk followed by Supera stent in popliteal artery. Severe short segment angioplasty resistant stenosis noted in ATA, distal to stent. Another coronary stent deployment attempted however, it got entangled with the previous stent and crumpled. Multiple stent retrieval attempts were made via various techniques. Finally, stent was retrieved by endobronchial forceps sheath. Post stentecomy angiogram showed complete endovascular recanalization of left popliteal and below knee arteries

Discussion:
Various techniques for management of damaged or dislodged stents are stentectomy, stent crushing against vessel wall by another stent deployment or parking the stent in minor branch. If retrieval fails then open surgery should be considered.

Take-home points:
Interventional Radiologists should be aware of the risk factors & management strategies to deal with stent damage or dislodgement.

Abstract ID – 2.1.010

Looped and Confused: Salvaging a debilitating Heel Ulcer in Complex Chronic Limb Ischemia.

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Looped and Confused: Salvaging a Debilitating Heel Ulcer in Complex Chronic Limb Ischemia
History:
A 79-year-old plumber with diabetes, ischemic heart disease, and interstitial lung disease presented with six-month heel ulcer. Unfit for general anesthesia or surgical revascularization, he required an endovascular approach. Doppler ultrasound showed occluded posterior tibial (PT) and peroneal arteries, a diseased anterior tibial (AT) artery, and collateral-dependent dorsalis pedis (DP) artery. A triphasic superficial femoral artery (SFA) ruled out proximal disease.

Outcome:
Antegrade angioplasty under LA and popliteal block revealed extensive occlusions: diseased AT, occluded PT and peroneal arteries, and collateral-fed DP. Crossing the PT initially caused dissection, prompting a switch to the AT route. Navigation through the DP and plantar arch reached the PT, but wire snaring failed. Advancing a microcatheter antegradely from the PT into the arch also failed due to wire dislodgement. A second attempt successfully navigated from the AT through the DP and plantar arch into the PT, but the wire snapped during snaring. The fragment was retrieved, and a microcatheter exchange re-established access.

A novel fluoroscopy-guided distal SFA puncture allowed a shorter snaring route, creating through-and-through CFA-to-plantar arch to SFA access. Sequential angioplasty restored patency: AT (3 mm), DP and plantar arch (2.5 mm), PT (3 mm), and peroneal artery (3 mm). The final angiogram demonstrated excellent perfusion, confirmed by Doppler, with significant ulcer healing.

Conclusion:
Adaptability, persistence, and meticulous complication management are critical in challenging cases. This case highlights the innovative technique of same side dual antegrade access.

Abstract ID – 2.1.011

Management Of EHPVO Complicated By Bleeding Gastric Varices & Refractory Ascites With Meso-tips (Combined Approach Of Mini-laparotomy Assisted Trans-mesenteric And TIPS) – A Brief Report.

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Clinical History: 50-year-old female, k/c/o EHPVO presenting with refractory gastric variceal bleed and ascites.

Treatment options/outcomes:Underwent EUS coil and glue and medical therapy however had persistent Malena and hematemesis. Planned for TIPS with or without variceal embolization. However, on CECT she had chronically thrombosed splenic vein and portal vein.

Discussion: MesoTIPS is the procedure representing meso-transjugular intrahepatic portosystemic shunt done for the relief of portal hypertension secondary to portal venous thrombosis or EHPVO. This is a combined surgical and endovascular technique particularly useful in cases where trans-splenic route and native PV are not utilisable due to chronic thrombosis. TIPS is an effective procedure for management of portal hypertension related complications. However, due to variable patient conditions, there are various challenges and limitations in conducting the procedure. MesoTIPS is an alternative, in which the procedure is done by puncturing the mesenteric venous system after the abdominal incision and navigating the occluded segment of portal vein through mesenteric approach. Followed by which TIPS procedure will be performed from transjugular approach with balloon or snare guidance from mesenteric access.

Take-home points: Portal cavernoma, exhausted splenic vein access should not deter to take the 3rd approach to complete TIPS i.e. mesenteric approach. MesoTIPS represents a viable option to decompress portal hypertension in this sub category of patients with absence of native portal or splenic vein.

Abstract ID – 2.1.012

A tale of mechanical thrombectomy with ICAD and stent retriever assisted retrieval of the fractured stent

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Clinical history: A 68-years old male presented with left hemiparesis for 6 hours and NIHSS of 11 in ER. CT stroke protocol showed a small infarct in right high parietal region with significant penumbra and right supraclinoid ICA occlusion with possibility of an underlying extra- or intracranial atherosclerotic disease.

Treatment options/outcomes: Mechanical thrombectomy with possible need for rescue stenting was planned. Attempts at SOLUMBRA resulted in partial recanalization revealing an underlying ICAD. Pre-plasty was done and balloon-mounted stent advanced over wire till cavernous segment, which got stuck at heavy calcification along vessel wall. Manipulations resulted in stent fracture and partially pulled out wire with detachment of stent mounted over the underlying balloon. Eventually the balloon was withdrawn over wire and gentle stent-plasty was planned. After multiple failed attempts, decision was taken to retrieve the fractured stent. With microcatheter at the site of fractured stent, solitaire was partially deployed capturing the stent and the entire assembly was withdrawn. 30-mins post procedure runs showed patent ICA without any evidence of intracranial hemorrhage. He improved clinically the next day and was discharged two days later.

Discussion: Stent fracture or kink can be expected in cases of heavily calcified and tortuous vessels. Management of such clinical scenarios can be done by using stent retrievers or microsnare.

Take-home points: Off-table planning and on-table thinking with patience while in DSA suite is the key to a good outcome despite the glitches. In this case, using stent retriever for the fractured stent saved the day.

Abstract ID – 2.1.013

Antibiotic-Impregnated Aortic Stent Graft: A Novel Solution for Mycotic Aneurysm Management in High-Risk Patients

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Clinical History: A 70-year-old male was detected to have a aortic arch saccular aneurysm with features of mycotic aetiology. The patient was deemed a high-risk candidate for open surgical repair.

Treatment Options: Options of an extensive arch and DTA repair needing Frozen Elephant trunk procedure versus endovascular, the MDT decided for TEVAR after Zone 0 debranching. The patient underwent Zone 0 debranching followed by TEVAR with an antibiotic-impregnated aortic stent graft. The graft was pre-soaked with Rifampicin (and gentamicin. Stent graft was deployed with sac exclusion. Post-procedure imaging confirmed proper graft positioning and resolution of flow into the infected aneurysm. At 3-month follow-up, clinical and imaging assessments demonstrated no recurrence of infection, and aneurysm stability

Discussion: Mycotic aortic aneurysms are life-threatening infections of the aorta, often caused by hematogenous seeding or direct extension from infected structures. While open surgical repair with extensive debridement remains the gold standard, it is associated with high morbidity and mortality in patients with significant comorbidities. Antibiotic impregnation of stent grafts has emerged as a novel strategy to mitigate this risk. In this case, the approach successfully controlled the infection and provided effective aneurysm management, highlighting its potential as a viable option for high-risk patients.

Take-Home Points: Endovascular repair is a feasible option for high-risk patients but must address the challenge of infection control. Antibiotic-impregnated stent grafts provide localized antimicrobial activity and may reduce the risk of persistent infection . This case highlights the role of innovative techniques in expanding treatment options for complex vascular infections.

Abstract ID – 2.1.014

A novel technique to manage an unanticipated complication of stent-assisted coiling of a ruptured Acom aneurysm

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Clinical History
A case of ruptured wide neck Acom aneurysm and absent right A1 presented with acute SAH. The patient was taken for stent-assisted coiling of aneurysm.

Treatment options/outcomes
A braided stent was deployed in right A2 and left A1 across the aneurysm neck. One of the coils dislodged into the left A2. The dislodged coil could not be retrieved as the stent covered the left A2 origin. With intent to put another stent in Y configuration, the left A2 was cannulated through the stent-strut with a microwire, however the microcatheter could not be navigated in left A2. Then the dislodged coil was further pushed by microwire in a distal branch of left A2, and the proximal segment of the stent was forced into the left A2, completely covering the aneurysm neck in L-shape. Post-procedure DSA showed patent parent vessels and non-filling of the aneurysm. The patient was extubated and no neurological deficit occurred.

Discussion
In the described case the dislodged coil was pushed very distal in the ACA leading to the avoidance of major neurological deficit. The innovative idea of pushing the proximal segment of the deployed stent in L-fashion in our case ensured complete coverage of the aneurysm neck and also obviated the risk of fall of the coil mass in the parent vessel.

Take-home points
It is advisable to use a laser cut stent if one is contemplating the possible requirement of Y-stenting or stent-balloon combination while performing stent-assisted coiling of a wide neck aneurysm.

Abstract ID – 2.1.015

ACUTE ISCHEMIC STROKE AND DIRECT CAROTICO-CAVERNOUS FISTULA COMPLICATING RUPTURED WIDENECK GAINT CAVENOUS ICA ANEURYSM - ENDOVASCULAR MANAGEMENT

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CLINICAL HISTORY: 58 y/female presented with sudden severe headache, proptosis, drooping of left eye lid and diplopia. On physical examination, she had left pulsatile proptosis, ptosis, and CN-VI palsy. Clinical diagnosis was carotico-cavernous fistula (CCF). CT/CTA revealed direct CCF due to ruptured wideneck gaint cavenous ICA partially thrombosed aneurysm. Later, patient developed in hospital acute stroke (right lower limb) and DSA revealed of left A1 - ACA occlusion.

TREATMENT OPTIONS/OUTCOMES: Emergency mechanical thrombectomy for left A1-ACA occlusion was performed and TICI3 recanalisation was achieved. Flowdiverter stent was used to treat the ruptured wideneck gaint cavenous ICA partially thrombosed aneurysm and CCF.

DISCUSSION: The incidence of CCF by a ruptured cavernous sinus aneurysm was 1.5%. CCF was the presenting symptom in 24.4% of treated symptomatic cavernous sinus aneurysms. Ischemic stroke and transient ischemic attack are rare but well-documented presentations of intracranial aneurysms, being more common in giant thrombosed aneurysms. Our case is combination of acute ischemic stroke and direct caroticocavernous fistula complicating gaint ruptured partially thrombosed cavernous aneurysm.

TAKE-HOME POINTS: Transarterial embolization with flow diversion represents a therapeutic alternative that may be used in combination with coiling or possibly even as standalone treatment for direct caroticocavernous fistula complicating gaint ruptured partially thrombosed cavernous aneurysm.

Abstract ID – 2.1.016

Embolization of ruptured hepatocellular carcinoma in a patient with celiac axis occlusion using pancreaticoduodenal arcade as a life savior

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CLINICAL HISTORY: A 53yr/male, presented with acute abdominal pain followed by loss of consciousness. USG abdomen revealed right lobe of liver SOL with gross hemoperitonium. On arrival Hemoglobin was 6.1gm%. HbsAg - positive. CT/CTA of abdomen revealed ruptured HCC with Celiac axis occlusion. However, Hepatic artery is filling via Superior mesentric artery(SMA) and pancreaticoduodenal arcade(PDA).

TREATMENT OPTIONS/OUTCOMES: Catheterization of the tortuous PDA and the gastroduodenal artery (GDA) to reach the proper hepatic artery (PHA) and tumor-feeding branches for embolisation of ruptured HCC.

DISCUSSION: During angiography occlusion of the celiac axis was confirmed and hypertrophied PDA and GDA was noted in SMA angiography. Catheterization of the PDA was performed by preshaping of the micro-guide wire into a wide curve. Catheterization of the PHA was a challenge and was achieved by reshaping of the micro-guide wire. Embolisation with PVA and gelfoam mixture was done after super selective catheterization of the tumor feeding artery.

TAKE-HOME POINTS: Celiac axis occlusion is a challenging condition when catheterization of the hepatic artery is required for embolization of ruptured hepatocellular carcinoma (HCC). As a result, the hepatic artery has to be catheterized through the pancreaticoduodenal arcades and the gastroduodenal artery from the superior mesenteric artery which is a tortuous course with acute angles and small caliber branches. Embolization of ruptured HCC through the PDA and the GDA using micro-guide wire preshaping technique and the microcatheter looping technique in patients with celiac axis occlusion is a challenging but life saving treatment.

Abstract ID – 2.1.017

Chronic Budd-Chiari Syndrome with segmental interruption of Inferior Vena Cava: Percutaneous Recanalization by Angioplasty and Stenting

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CLINICAL HISTORY: A 31-year old man with chronic Budd-Chiari syndrome was hospitalized several times for abdominal pain, tension ascites, and refractory edema, despite anticoagulant treatment and high doses of furosemide and spironolactone. CT angiography showed total occlusion of the intrahepatic vena cava.

TREATMENT OPTIONS/OUTCOMES: The interrupted segment of inferior vena cava was punctured with a manually modified curve TIPSS needle under multidirectional fluoroscopic guidance via a transjugular approach. The occlusion was dilated with balloons of increasing size and was subsequently stented successfully. At 6-month follow-up venography showed patency of the stent, and the patient remains asymptomatic 1 year after the procedure.

DISCUSSION: The angiographic study in this patient showed segmental interruption of the inferior vena cava. Treatment for Budd-Chiari syndrome varies according to the etiology and level of the obstruction. In cases of complete or segmental occlusion of the inferior vena cava, the use of percutaneous revascularization procedures is increasingly more common, whereas surgery is reserved for cases that cannot be resolved percutaneously. The procedure can be performed safely under fluoroscopic guidance in several views to assure proper angling of the needle as it perforates occluded segment. Balloon angioplasty offers good initial results, although the rate of restenosis varies from 3% to 48% according to the series. As compared to results with the balloon, stenting improves the long-term outcome as it reduces the incidence of restenosis.

TAKE-HOME POINTS: percutaneous revascularization for interrupted segment of IVC in a patient with Budd-Chiari syndrome was a safe procedure that proved long-term effectiveness.

Abstract ID – 2.1.018

Endovascular therapy in grotesque tissue infiltrative arm AVM: Harnessing multiple embolic agents and routes for cure.

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Clinical History: A middle aged female presented with swelling and pain in the arm and around elbow since birth. On examination, the left arm was swollen, warm to the touch with palpable thrill and audible bruit. Doppler ultrasound revealed multiple anechoic vascular channels with high flow. Subsequent CTA was done which revealed multiple tortuous, tissue infiltrative vascular channels with multiple nidal components in the subcutaneous and intermuscular plane of the left arm with early visualisation of dilated brachial, cephalic and basilic veins. Feeding arteries were seen arising from muscular branches of the left brachial artery.

Treatment options/outcomes : Endovascular embolization was planned to with the intent to devascularize the lesion before surgery. Given the extensive tissue infiltrative AVM, multiple sessions of AVM embolization were planned. 4 sittings included transarterial and percutaneous embolization of the extensive nidus and feeding arterial segments using glue lipiodol combination of varying concoctions. One sitting included transvenous embolization of large venous channels using coils, vascular plugs and glue.

Discussion: In the present case, we succeeded in embolising a humongous complex arm AVM, with the simultaneous use of a myriad of embolic agents and different vascular access without any significant complication.

Take-home points:
In treating a large tissue infiltrating AVM
1. Multiple sessions of endovascular embolotherapy may be required.
2. Mutliple embolic agents like glue, PVA particles, vascular plugs and coils can be exploited.
3. Targeting the nidus, feeding artery and draining veins should be considered a reasonable approach for better clinical outcomes.

Abstract ID – 2.1.019

Where There Is A Will, There Is A Way: Novel Approach For Trans-Arterial Chemo-Embolisation

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Clinical History: We present case of 55-year-old gentleman, diagnosed with a large right lobe Hepatocellular Carcinoma with few satellite nodules on the background of Chronic Liver disease. Serum AFP was 2552. CECT Abdomen showed severe stenosis of Coeliac artery origin. Multiple attempts at cannulating the coeliac origin failed. After negotiating through the tortuosity of inferior pancreaticoduodenal and reaching the GDA, the microcatheter had lost all torque and trackability and the angle from GDA to common hepatic artery was very acute. Multiple hepatic artery canulation attempts were unsuccessful.

Treatment options/outcomes: Trans-splenic arterial access was planned. Under USG using 4F micro-puncture set, intraparenchymal lower polar branch of Splenic artery was accessed. Using Cobra C1 glide catheter to navigate tortuous splenic artery, 3DCT was taken to map the tumour feeders which were subsequently infused with 15ml Lipidol and 75 mg Doxorubicin followed by 300-500 PVA particles. Trans-splenic access tract was embolised using 50% glue through the 4F vascular sheath. CEMRI at 4 weeks showed complete response. Serum AFP declined to 282.

Discussion: TACE is one of treatment for patients with Intermediate stage BCLC staging system. In conventional TACE, the administration of the anticancer-in-oil emulsion is followed by mechanical embolization. TACE with necrosis creates condition that encourage angiogenesis.

Take-home points: In the presence of coeliac artery stenosis, access to hepatic artery is challenging. Trans-splenic arterial access is a highly unexplored approach but tricky as difficult to target intraparenchymal arterial branch. However, if performed with precautions it can be considered a safe option.

Abstract ID – 2.1.020

Title:

Percutaneous Retrieval of a Broken, Impacted, and Migrated Drain Catheter Tip in the Psoas Muscle Using Fluoroscopic Guidance: A Case Report

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Clinical History:
A 60-year-old male with a history of abscess drainage presented with persistent pain and restricted mobility. Imaging revealed a broken and migrated drain catheter tip lodged in the right psoas muscle. The fragment's deep and impacted location posed a challenge for standard retrieval methods.

Treatment Options/Outcomes:
Under fluoroscopic guidance, percutaneous access to the psoas muscle was established. Specialized retrieval tools were used to carefully navigate to and extract the impacted catheter tip, ensuring minimal disruption to surrounding tissues. Post-procedure imaging confirmed complete removal of the fragment without complications. The patient experienced immediate symptom relief and had an uneventful recovery.

Discussion:
Foreign body retrieval from deep anatomical spaces, such as the psoas muscle, is complex due to the risk of damaging adjacent structures. Fluoroscopic guidance allows for precise localization and real-time maneuvering, reducing the risk of complications. Compared to open surgery, the percutaneous approach is minimally invasive, offering faster recovery, reduced pain, and fewer complications. This case highlights the importance of image-guided techniques in managing challenging foreign body retrievals.

Take-Home Points:
Fluoroscopic guidance enables safe and precise retrieval of deeply embedded foreign bodies. Percutaneous retrieval minimizes tissue trauma and reduces recovery time compared to surgical approaches.

Abstract ID – 2.1.021

Image guided percutaneous cryoablation of metastatic central lung tumor in 22months child- HOW WE DID IT!

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Clinical History 22months old male k/c/o Hepatoblastoma diagnosed at 10months age Baseline AFP - 88,789, received Superplado in end of 2023 Underwent Hepatectomy(Segment 4 , 5 , 6) - 23/2/24 and adjuvant chemotherapy On followup developed lung mets – for which he underwent Metastectomy- Rt lower lobe (12/8/24) followed by adjuvant chemotherapy. end of salvage chemo 8/10/24 - AFP - 9.30 On Routine Follow up 14/11/24 - AFP – 308 Due to raised AFP, CECT shows mildly enhancing nodule in right middle lobe in paracardiac location.

Discussion While surgical resection remains the treatment of choice for the local control of metastases to the lung, Cryoablation is monitorable; ice balls can be visualized by computed tomography (CT) as a distinct ovoid area of low attenuation during the procedure. As a result, the treatment can be optimized while minimizing the risk of harming nearby critical structure. Ablation was performed under general anesthesia, using an nitrogen gas-based system (ICE SPHERE,BOSTON) and guided by a CT and USG. Special techniques like pneumo-dissection was done using CO2 gas after fixation of lesion with cryoprobe.

Abstract ID – 2.1.022

Resistant Chronic Occlusion of Lower limb arteries: Never give up attitude & an out of textbook idea saved the limb!!

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Clinical History:
40 year-old gentleman with 5 months history of Chronic flush total occlusion of left SFA with failed endovascular revascularization and occluded femoro-femoral bypass and left femoro-popliteal bypass grafts. He presented with non-healing surgical wound at left thigh with severe rest pain & contracture at knee and hip joint.

Treatment Options/ Outcomes:
Limb amputation
Surgical bypass- ruled out
Endovascular options

Discussion:
After failed antegrade crossing, a retrograde ATA access was taken & with a lot of struggle & difficulty requiring multiple wire and catheter exchanges, the wire was finally passed upto the proximal SFA origin, however, was not in the true lumen. A PARALLEL WIRE TECHNIQUE was used to cross into the true lumen. Balloon Angioplasty was done initially for SFA, but flow restoration was not good. In an attempt to salvage the limb, we tried Angiojet thrombectomy system even though the occlusion was chronic, and used 20mg Alteplase followed by thrombectomy. Post Angiojet thrombectomy, good flow restoration was achieved and a repeat angioplasty was done with good blood flow across the SFA with few residual areas of recoil. Vasculomimetic stents were placed in patent SFA and good flow was established. 1 year follow up of patient showed good flow on doppler and complete healing of thigh wound.

Take Home points:
Parallel wire technique: key technique for crossing into true lumen in difficult re-entry
Pharmaco-Mechanical thrombectomy can work in chronic occlusion too as some component of thrombus is acute on chronic.

Abstract ID – 2.1.023

Sharp Recanalization in central venous occlusion: From blockage to breakthrough

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Clinical History:
56-year-old CKD (Stage V) patient on hemodialysis with multiple histories of central catheters placement. He presented with severe right upper limb and facial edema. CT venography revealed complete occlusion of right brachiocephalic vein with no communication with SVC & multiple collaterals.

Treatment Options/ Outcomes:
Translumbar/ Transhepatic permacath
Surgical Option: Ruled out
Endovascular options including Sharp recanalization

Discussion:
After failed crossing from right basilic & right common femoral venous accesses even after using back end of 0.035 glidewire, CTO catheters and wires combinations. So, sharp recanalization was performed using a 21 G x 65 cm needle inserted through a long CFV sheath and after confirming true lumen entry, the wire was snared in right brachiocephalic vein. Venoplasty was done using serial balloons, but due to significant recoiling post balloon dilatation, a dedicated venous stent was placed. There was good forward flow through stent and complete resolution of collaterals.

Take home points
Recanalization in Central venous Occlusive disease is challenging but very rewarding procedure. Sharp recanalization is attempted in non-negotiable lesions.
The 21G x 65cm Chiba needle by COOK is a very useful and cheaper option for sharp recanalization and the smaller diameter affords some safety as well in comparison to the thicker TIPS sets.
Basic evaluation including CT venography is necessary before starting the procedure, so that we are well versed with Anatomy of central venous structures.
High risk consent is always a must, if we are contemplating use of sharp recanalization in procedure.

Abstract ID – 2.1.024

Minimally-invasive non-operative percutaneous ultrasound-guided aspiration of intracranial abscess in a premature neonate

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Clinical History
A premature neonate(34 weeks) delivered via LSCS, was shifted to NICU due to sepsis and respiratory distress. She was given IV antibiotics after sending sepsis screen. Blood, urine and CSF cultures were sterile. CE-MRI brain showed a well-defined abscess in right occipital lobe(19x14mm). Despite giving IV antibiotics, sepsis could not be controlled.

Treatment Options/Outcome
In such cases, when medical management has failed, the only option left is surgery. However, she was not stable to undergo surgery. A reference was given to IR. Bedside ultrasonography was performed. The abscess was visualized via posterior fontanelle and percutaneous access to abscess was possible without entering eloquent areas.

Under IV sedation and using a hockey-stick probe(8-18MHz) via posterior fontanelle, 22G needle was used to access the abscess. When the needle reached the abscess, stylet was removed and single gentle aspiration yielded the liquified content(3cc) of the abscess. No post-procedural neurological deficits were seen.

Microbiological analysis revealed septate branching fungal hyphae and amphotericin-B was started. CE-MRI brain after 4 weeks showed significant reduction in abscess(1x0.8cm)without any evidence of haemorrhage or needle induced damage. She was discharged after 2 days, with an advice to continue antibiotics and antifungals for 2 weeks. On follow-up visits(every month till 3 months), she has been afebrile with normal neurological examination.

Take Home Points
Intracranial abscesses(if not deep-seated) can be managed by ultrasound-guided drainage without any surgery/burr-hole. Avoiding eloquent areas of brain is the key point.

Abstract ID – 2.1.025

TIPSS- Using USG Gunsight technique for extensive intrahepatic periportal collaterals

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Clinical History:
A 45-year-old male with autoimmune hepatitis and cirrhosis, history of variceal bleeding, and splenomegaly was referred for TIPSS. Investigations revealed thrombocytopenia (platelets 79,000) and MELD Na of 14.

Procedure:
Using right IJV access, a Colapinto needle was positioned in the right hepatic vein. Initial portal vein punctures under USG and fluoroscopy resulted in periportal collateral access. A USG-guided percutaneous puncture of the right portal vein was performed using a 21G Chiba needle, same needle was advanced into the right hepatic vein. A 0.014" microwire was passed through the Chiba needle and snared out through the right IJV. A 2-mm balloon was used to dilate the intraparenchymal tract, followed by the placement of a 4F catheter in the right portal vein, confirmed with angiography. The microwire was exchanged for an ultra-stiff wire, and the tract was dilated, culminating in stent placement.
Outcome:
Follow-up USG Doppler confirmed good stent flow with no recurrence of variceal bleeding.

Discussion:
The standard gunsight technique involves fluoroscopic guidance for DIPS and left-sided TIPSS. This case demonstrates a novel approach using USG guidance to target the portal and hepatic veins percutaneously, which is particularly beneficial in patients with periportal collaterals or cavernoma. This modified technique provides a promising alternative for challenging TIPSS cases.

Abstract ID – 2.1.026

Successful Endovascular Management of a Mediastinal Slow-flow Lympho-Venous Malformation with a Rare Manifestation in an Adult: A Case Report

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CLINICAL HISTORY

A 42yr old male patient, presented with progressive dyspnea which on further investigation revealed PTE, along with an incidental detection of a large vascular malformation in the left mediastinum showing a large outflow in Left Brachiocephalic vein and inflow from Hemiazygos and Left Vertebral vein. He was managed conservatively on oral anti-coagulants for PTE elsewhere and was referred to us for the management of the LVM.

TREATMENT OUTCOME

LVM was treated by endovascular plug assisted sclerotherapy. Inflow (Hemiazygous vein and Left vertebral vein) and outflow of LVM (proximal to the left BCV) were embolised by vascular plugs and Doxycycline was injected within the malformation as a sclerosant. Post procedure period was uneventful and there has been no recurrence of PTE (>1year follow up).

DISCUSSION

Mediastinal LVMs are rare conditions that can present diagnostic challenges due to their infrequency and varied clinical manifestations. They can lead to serious complications such as spontaneous rupture, stroke and PTE etc. Pre-procedural imaging with Ultrasound, CECT and MRI are essential in the diagnosis and classification. Mediastinal LVMs can be managed by two primary treatment avenues: surgery and sclerotherapy. Complete eradication of the LVM surgically is often challenging, with high recurrence rate, incomplete excision and higher chances of complications related to thoracotomy such as large incision, heavy intraoperative bleeding and nerve damage in some patients.

TAKE HOME POINTS

Sclerotherapy is an effective, safe and minimally invasive treatment for mediastinal LVMs. Sclerotherapy with doxycycline in a low-flow vascular malformation is feasible, safe and effective.

Abstract ID – 2.1.027

Complex Vertebro-Venous fistula Embolization with Multiple feeders with Subclavian Artery thrombosis and further management in a Neurofibromatosis patient

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Clinical History
41-year-old female, known case of Neurofibromatosis with kyphosis presented with neck swelling with bruit.
MRI, CT angiography and Diagnostic DSA revealed dilatation of the proximal left vertebral artery with early venous drainage with associated multiple small feeders from Cervico-thoracic branch from left subclavian artery with normal cerebral circulation.

Procedure
Attempt was made to coil occlude left vertebral artery, but was unsuccessful. So coil embolization of sac was planned. Unfortunately, there was slippage of coil mass into subclavian artery from sac, which was snared back through femoral sheath. Second attempt of coil placement was successful with persistent filling. Further, trapping of left vertebral artery was done through right vertebral artery through coil embolization. There was collapse of coil fiber into branch of subclavian artery. Small feeders from cervicothoracic trunk from left subclavian arteries were selectively cannulated and were embolized using Glue- lipiodol mixture. Few small feeders could not be cannulated, with still persistent filling of aneurysm. Rest of aneurysmal sac was embolized percutaneously under Ultrasound guidance using Glue-lipiodol mixture with complete occlusion. Next day, patient developed Thrombosis of subclavian artery with non-palpable distal pulses. Thrombectomy and stenting were done.

Discussion
Vertebral artery aneurysms and AVFs associated with Neurofibromatosis Type I are rare but significant. Challenges include vascular fragility, complexity of collateral supply, and the need for multi-modal approaches. Literature supports endovascular management as a safe and effective option.

Take home points
Multi-modality embolization techniques are critical in complex vascular anomalies.
Early diagnosis and tailored interventions can mitigate complications.

Abstract ID – 2.1.028

Navigating the Digital Challenge: Ring Finger AVM Managed with Glue Embolization and Venous Tourniquet.

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Clinical History:
A 20-year-old male presented with swelling and pain in the ring finger for the last 10 years, gradually increasing over 2 years. The ring finger was swollen and warm on examination with a palpable thrill. Doppler ultrasound and MRA confirmed ring finger AVM with feeding arteries from the right ulnar artery.

Treatment options/outcomes:
The treatment options were either endovascular or surgical. Surgical resection was deferred, given the lesion extension and location. A diagnostic angiogram of the ulnar artery revealed AVM Angio texture consistent with Yakes type IIA lesion. Super selective nidus embolisation was done with glue: lipiodol (1:3) via transarterial and percutaneous route. Further, a venous tourniquet was placed in the wrist to slow the outflow in the draining vein. Post-embolization run revealed minimal nidal blush with no early opacification of the draining vein. At 3-month follow-up, the swelling in the ring finger decreased significantly, and he experienced significant improvement in pain.

Discussion:
Therapeutic interventions must preserve digits' structural and functional integrity. In the present case, it was remarkable that we succeeded in treating a digital AVM, in which complications were likely to occur, with the safe use of ingenious methods such as the use of glue, which is a safer sclerosing agent and a venous tourniquet to ensure the agent effectively reached the nidus.

Take-home point:
Endovascular embolotherapy with glue and venous tourniquet improves cosmetic and pain symptoms and can be considered a first-line treatment modality even in digital AVM.

Abstract ID – 2.1.029

Internal Iliac artery pseudoaneurysm with multiple arteriovenous fistulas presenting as heart failure in the setting of spinal Tuberculosis: Insights into Endovascular Management of an Unexplained etiopathology

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Clinical History:
A 31-year-old female presented with a history of gradual onset of back pain, numbness, and shortness of breath for 1 year. Echocardiography revealed mild LV systolic dysfunction. The USG pelvis revealed a large pseudoaneurysm sac with the yin-yan flow. Further, CT angiography showed a large pseudoaneurysm sac showing fistulous communication with right IIA, right IIV, and EIV. A biopsy of the soft tissue component revealed findings consistent with tuberculosis.

Treatment options/outcomes:
The treatment options were either endovascular or surgical. Surgery was deferred, given the extensive bony involvement, soft tissue, and vascular lesions. Therapeutic embolisation of right IIA and bilateral IIA branches and pseudoaneurysms was done with PVA particles, multiple 6–12 mm coils, and a 50% Glue: Lipiodol mixture by the transvenous route. In 1 week, LVEF function improved to 55% from 40% at the presentation.

Discussion:
IIA pseudoaneurysms with AVFs are rarely reported, with the possible aetiology being an IIA injury due to direct granulomatous tissue invasion. Since our patient presented with cardiac failure, increasing pain, paraesthesia in the limb, and IIA pseudoaneurysm, intervention was required urgently for this patient. Complete exclusion of the IIA and its branches and obliteration of the pseudoaneurysm sac from the venous side lead to the elimination of the fistulous component and improving left ventricular ejection fraction.

Take-home points:
Improvement in LVEF, pain, and paraesthesia at short-term follow-up reflects the effectiveness and safety of endovascular embolization in such a rare aetiology and avoids the risk of heart failure and rupture progression.

Abstract ID – 2.1.030

AIRWAY STENTING : A GUSH OF FRESH BREATH

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Clinical History
A 72 year gentleman, chronic smoker, with background COPD, presented with shortness of breath, and progressive dysphagia to solids for the past 2 months.
Upper GI endoscopy revealed a growth in mid esophagus, that was adenocarcinoma on biopsy.

Treatment options/outcomes
MDT decision was to perform tracheobronchial stenting prior to palliative chemotherapy.

The procedure was performed under general anaesthesia. Fibreoptic bronchoscopy was performed to mark the levels of carina, right upper lobe bronchus origin and proximal margin of the narrowing.

Post one hour of stenting, the patient became hypotensive (BP 60/40 mm Hg). There was asystole, CPR started and patient revived. Immediate chest x-ray done showed gross left sided tension pneumothorax. An intercostal surgical drain was inserted and Negative suction device attached in view of bronchopleural fistula.
The patient's condition improved and was extubated on post procedure day 2. He was shifted to ward and discharged after 2 weeks after ICD removal. An HRCT thorax performed during the ward stay revealed a ruptured bulla in left lower lobe.

Discussion
Tracheobronchial stenting performed in Tracheo-esophageal fistulas or airway narrowing provide dramatic improvement.
The most likely cause of the complication in our case would be either excessive wire manipulation or excessive positive pressure ventilation causing parenchymal leak.

Take-home points
Tracheobronchial interventions are a simple but highly rewarding modality in palliative end stage disease.
Thoracic interventions in patients with a background obstructive lung disease carry a higher risk.

Abstract ID – 2.1.031

STUCK PERM CATH, FLORID SVC SYNDROME WITH ACCESS ISSUE FOR DIALYSIS- A NIGHTMARE OF IR

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History:
53YRS/F,CKD on MHD, on right permcath, developed poor flow. Fibrin deposition suspected, for which stripping done after CT venogram. Problem recurred within 1½ month, presented with cessation of flow & florid SVC syndrome. Repeat CT venogram showed thick fibrous soft tissue around tip of permacath with severe narrowing of SVC-RA junction. Right IJV occluded & left IJV dominant alongwith opening of collaterals. Removal of right permacath failed as catheter stuck & not coming out.

TREATMENT OPTIONS /OUTCOME –
Remove stuck permacath after stripping of fibrin cap, treat SVC syndrome with plasty /stenting, If possible secure dialysis access via left IJV till transplant.
Using left basilic & left femoral vein approach, Wire passed, snared from below, fibrin stripping & permcath removal done. After plasty of SVC narrowing, self expanding stent positioned, which went to RA with small area at narrowing. Took small balloon mounted stent to fix it, which further pushed the stent, removed. Stent snared from below after upgrading femoral sheath. Placed balloon mounted stent at narrowing but failed, finally fixed using balloon mounted covered stent. Left IJ puncture made to place permcath, got stuck at stent, snared from below into RA. Flow stopped after third dialysis as permcath migrated up within stent. Made dissection till calf of catheter, pushed it over wires via permcath, went into proximal RA. Venous flow established, dialysis started with reversal.

TAKE HOME POINTS
A difficult case with several issues, could finally achieve result wanted by repeated planning, discussion & adaptation to prevailing circumstances.

Abstract ID – 2.1.032

CT Guided Percutaneous NBCA Glue Injection Of Rectal Varices For Refractory Rectal Variceal Bleed As A Bailout

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Clinical History
A 28-year male with history of Extra Hepatic Portal Venous Obstruction (EHPVO),portal hypertension,portal-cavernoma,esophageal/rectal varices and splenectomy presented to emergency department with one episode of hematemesis,hematochezia and severe abdominal pain.Sigmoidoscopy revealed actively bleeding rectal varices.CT Abdominal Angiogram(CTAA) revealed chronic portalvein thrombus with portalcavernoma and varices at peripancreatic,mesenteric and anorectal regions.Patient was initially managed medically,followed by Endoscopic Injection Sclerotherapy(EIS) without success.

Treatment options/outcomes
In view of above history,Endovascular Trans-hepatic/Trans-splenic embolization approaches could not be attempted.Hence,we performed CT guided percutaneous glue injection of rectal varices under local anaesthesia using a 22G spinal needle leading to immediate and complete cessation of bleeding.Endoscopy performed at 1week confirmed marked shrinkage of rectal varices.CTAA performed 3months postprocedure revealed nonopacification of rectal varices.On 12month follow up there was no recurrence of bleeding per rectum.

Discussion
In the current case scenario as above,after reviewing the CTAA,the right pararectal/anorectal varices were seen as bunch of intertwined collaterals coursing down from the plexus of veins in the pancreatic bed with nonvisualisation of inferior mesenteric vein.we successfully performed glue obliteration via the right transgluteal approach under CT guidance.

Take-home points
Optimal utilisation of CT guided percutaneous glue injection technique can achieve timely resolution and should be considered in the management of such patients with refractory rectal variceal bleed.Limitations should be considered while performing CT guided percutaneous glue injection for rectal varices.

Abstract ID – 2.1.033

Percutaneous ablation-the way forward for parietal/superficial fibromatosis

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Clinical details ; A 48 -Year-old male presented with restricted right shoulder abduction since one year. Imaging showed irregular locally infiltrating lesion with irregular borders in the right chest wall infiltrating the surrounding soft tissue.Biopsy revealed it to be spindle cells infiltrating the skeletal muscle fibers more in favour of fibromatosis.

Treatment options; Patient was offered surgery, but to achieve R0 margins, patient has to undergo debilitating procedure.The recurrence rate post R0 resection are still high.Our medical board decided to offer percutaneous cytoreductive ablation with the primary intent to achieve maximum cytoreduction without any significant morbidity. Microwave ablation of the lesion was done under monitored anaesthesia care using two 16G 15cm Canyon Microwave Antennae. A modified moving shot technique was used. Follow up CE-MRI imaging at 1 month, 3 months and 6 months which showed complete response (A0) and and return of full range of movements in the right shoulder.

Take home message ; careful planning and precise execution can achieve A0 margins with in superficial fibromatosis with no recurrence upto 1year follow up.

Abstract ID – 2.1.034

The Anatomy of Disaster: Dissection, Occlusion and Extravasation

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Clinical history:
A 75-year-old male involved in a RTA presented with hemoperitoneum and instability. CECT showed aortic dissection, splenic artery avulsion, celiac trunk extravasation, SMA occlusion, right renal devascularization, and severe organ injuries, including grade IV liver/spleen trauma, left kidney infarction, and high-grade pancreatic injury.

Treatment Options:
Despite aggressive fluid resuscitation, blood transfusion, and inotropes, the patient's SBP dropped to 60/40 mmHg. Emergency endovascular intervention was initiated via left brachial access(femoral approach deferred due to dissected renal/infrarenal aortic segment). Angiography revealed severe stenosis and occlusion of the celiac trunk, with active extravasation from the celiac-left gastric artery origin, as well as SMA occlusion; celiac artery also seen reforming SMA via pancreatico duodenal collaterals. Since SMA also occluded, stent graft to main celiac trunk, excluding left gastric origin vs celiac occlusion with recanalisation of SMA were considered as endovascular treatment options. As suitable stent graft was not immediately available, and risk of antiplatelet in severe polytrauma,the celiac trunk was embolized with multiple coils, and the SMA was subsequently recanalized via balloon angioplasty, restoring hepatic perfusion via pancreaticoduodenal collaterals;there was no active extravasation from dissected aortic segment.

Outcome and Discussion:
Post-intervention, the patient remained stable for 36 hours with reduced inotropes but succumbed to cardiac arrest on day two due to multiorgan dysfunction. This case highlights the vital role of interventional radiology in managing complex traumatic injuries and hemorrhage, offering life-saving alternatives when surgical options are limited.

Abstract ID – 2.1.035

Management of inferior Vena Cava Leiomyosarcoma with secondary Budd-Chiari syndrome: A rare case

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Background: Secondary Budd- Chiari syndrome (BCS) due to Inferior Vena Cava (IVC) leiomyosarcoma (LMS) has been anecdotally reported. Interventional Radiology (IR) guided stenting followed by ablation of neoplastic lesion with long term curative success is being described.

Aim: To describe the multi-faceted management of a case of IVC LMS complicated with secondary BCS.

Materials and methodology: IVC and hepatic venogram revealed patent Left hepatic Vein (LHV), partially occluded MHV and complete occlusion of RHV with drainage via collaterals into the MHV. MHV stenting was done using 10 x 57 mm Balloon mounted stent following which patient had complete resolution of BCS symptoms. Radiofrequency ablation of the large IVC lesion (approximately 12 cm craniocaudally) was performed with RITA electrode system with multiple overlapping ablations.
Results: Patient achieved complete necrosis in the lesion and remains free of any locoregional or distant failure at the end of 2-year follow up. In view of recurrence of ascites and a demonstrated MHV stent kink at 2 years, she successfully underwent re-stenting.

Conclusion: Curative thermal ablative therapy of an IVC LMS along with IR-guided hepatic venous stenting for tumor-associated BCS has never been reported hitherto. Another chief advantage of IR based therapies is their repeatability in case of relapses/events after index treatment, as demonstrated in this case.

Abstract ID – 2.2.001

Precision With Preservation - Role Of Percutaneous Approach In Uterine AVM

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Background
Uterine artery embolization (UAE) is the standard treatment for uterine arteriovenous malformations (AVMs) and vascular abnormalities. While glue is commonly used in cases involving early draining veins, incomplete nidus obliteration can occur even with dilute glue. Persistent filling via utero-ovarian anastomoses or predominant ovarian artery supply often necessitates ovarian artery embolization. However, embolizing the ovarian artery in young patients carries the risk of premature ovarian insufficiency and poses technical challenges, including difficult cannulation.

Innovation
To address persistent AVMs or vascular abnormalities after UAE, we used percutaneous approach. Using a 21G needle, the AVM or nidus is punctured directly under USG guidance, followed by fluoroscopy-guided obliteration with dilute glue. We present a series of cases where this rescue technique successfully treated residual AVMs or vascular abnormalities, preserving ovarian function and fertility potential. This approach offers a viable alternative to ovarian artery embolization, particularly beneficial for young patients.

Applications
This percutaneous technique is a safe and effective solution for managing uterine AVMs or vascular abnormalities in appropriate clinical scenarios. It eliminates the need for ovarian artery embolization, reducing the risk of premature ovarian insufficiency. Additionally, it serves as a stand-alone treatment for congenital or nulliparous uterine AVMs and for patients with incomplete families, sparing uterine and ovarian arteries while supporting fertility preservation.

Impact on Practice
This percutaneous approach enhances UAE outcomes by managing residual AVMs while avoiding ovarian artery embolization. It preserves both uterine and ovarian arteries, improving fertility outcomes and overall clinical care in young patients.

Abstract ID – 2.2.002

Is left-to-left the right choice for TIPSS

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Background: Transjugular intrahepatic portosystemic shunt (TIPS) is widely used to manage portal hypertension complications, but TIPS dysfunction and hepatic encephalopathy (HE) can complicate treatment. The standard TIPS procedure accesses the right portal vein (RPV) from the right hepatic vein (RHV). However, when this approach is challenging, an alternative technique using the left portal vein (LPV) to the left hepatic vein (LHV) has been described, though rarely used.

Innovation: The LPV-TIPS offers several advantages, including a lower incidence of post-TIPS encephalopathy, attributed to the streamline flow theory, and reduced perfusion loss (LPV perfuses only 30% of the liver, compared to 70% by RPV). LPV-TIPS is associated with fewer stent dysfunctions and re-interventions, due to its shorter and straighter path. Indications for LPV-TIPS include chronic RPV thrombosis, right hepatectomy, and high-risk HE patients (e.g., those over 65, with sarcopenia or prior HE episodes).

Application: The LHV is accessed via the right internal jugular vein (IJV), and a stiff guidewire is placed. The midsagittal section focusing on the LHV (longitudinal) and LPV (axial) in the same section on USG is obtained followed by advancement of stiffening cannula in the LHV. Under ultrasound guidance, the LPV is punctured followed by guidewire advancement into the main portal vein under fluoroscopy. Balloon dilatation and stent placement follow.

How it changed practice: Though limited studies support the benefits of LPV-TIPS, it may be essential when the RPV/RHV is inaccessible. Further randomized studies are needed, but mastering this technique provides a valuable alternative in challenging cases.

Abstract ID – 2.2.003

Use of endo-venous laser ablation to close a collateral outflow channel in a fistula circuit - the numbers add up! A pilot study

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BACKGROUND
AVFs, surgically created arterio-venous connections for dialysis access, often develop collateral veins. These channels may divert flow from the main outflow used for cannulation, hindering the AVF's function. This proof of concept using endo-venous LASER (EVLA/EVLT, currently widely used for varicose veins) to close these "detour" veins for improving blood flow and enabling maturation of main outflow.

INNOVATION
This pilot study was performed on five patients with repeated fistula dysfunction despite angioplasty and angiogram established significant collateral circulation. Target vein was accessed with ultrasound under tumescent anesthesia cover and LASER ablation performed with 1470 nm LASER. Improvement in post-maneuver flow velocity (PSV) and volume in the main AVF outflow, vis-à-vis previously, signified success.

APPLICATION
Alteration of flow dynamics was apparent immediately after EVLT/EVLA. Technical and clinical success was 100%. The mean PSV and volume flow increased from 54.2 cm/s and 226.2 cc/min, to 135.4 cm/s and 581.6 cc/min. Mean PSV and volume flow further improved to 154.4 cm/s and 673.4 cc/min after one month. Importantly, average duration between AVF angioplasties improved from 3.8 months to 9.8 months.

HOW IT CHANGED THE PRACTICE
Closing a competing collateral of a high flow circuit improves flow through the main outflow. However, application to fistula circuits remain under-explored. Our study not only provides proof of technique, but also introduces EVLT as an alternative to techniques like coils, endo-suture or surgical ligation.

Abstract ID – 2.2.004

Percutaneous trans-splenic balloon-assisted trans-jugular intrahepatic portosystemic shunt placement in patients with obliterative portal vein thrombosis and refractory portal hypertensive complications

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Background:Trans-jugular intrahepatic portosystemic-shunt(TIPS) is an effective procedure for reducing portal hypertension. Challenges in TIPS placement include liver atrophy and lack of native portal vein(PV) branches. Trans-splenic balloon-assisted TIPS is a novel, safe, and effective technique for patients with obliterative PV-thrombosis(PVT).

Innovation:Under ultrasound guidance, a peripheral branch of the splenic vein is accessed percutaneously using a micropuncture set, followed by placement of a 4F sheath to secure the access. A catheter-guidewire combination is used to access the fibrotic PV through an antegrade approach. After recanalizing the PV, a contrast-filled balloon is placed in PV to guide the puncture. The TIPS cannula is modified to puncture the balloon under combined ultrasound and fluoroscopic guidance via the trans-jugular route. The guidewire is carefully passed through the balloon and captured at the splenic access site. The sheath is then advanced over the guidewire into the PV from the jugular side. The remainder of the procedure is performed using standard techniques via the neck, and the trans-splenic access site is sealed to prevent bleeding complications.

Application:In patients with portal cavernoma and no visible native portal vein, accessing a straight intra-parenchymal segment of the splenic vein is a valuable technique for placing a TIPS stent.

How-it-changed-the-practice: Trans-splenic balloon-assisted TIPS is a novel and effective technique for patients with obliterative PVT. Used in 4 cases where standard TIPS was not feasible, this approach has improved transplant candidacy and transplant-free survival in patients with refractory portal hypertensive complications

Abstract ID – 2.2.005

Efficacy of Stentriever Thrombectomy in Treating Acute Extremity Arterial Ischemia

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Background:
Catheter directed thrombolysis has bleeding risk of upto 30%. Rheolytic and clot fragmentation catheters cannot be used in small calibre arteries of the distal leg and forearm. They also have increased incidence of distal embolization and risks of vessel rupture.

Innovation:
Utilization of Solumbra thrombectomy in acute limb small calibre arterial occlusions is a promising option, as it may reduce thrombolytic dosage or even allow for its exclusion altogether.

Application:
63 patients with acute limb ischemia (≤ Rutherford class III) were treated. Technical success defined as grade II or III {revised Arterial Occlusion Lesion (rAOL)} after a maximum of 3 attempts. After failure of 3 attempts, recanalization was attempted using angioplasty ± stenting. Clinical outcome was assessed using change in Rutherford scale on the next day with class I or class IIa with arterial signal on doppler regarded as good clinical outcomes. Symptomatic improvement was assessed using VAS. Pre- and postprocedural limb ischemia and in-hospital events were evaluated.

How it changed the practice:
Substantial to complete thrombus removal in 53 patients (AOL grade III – 43; AOL grade IIb in 10 patients). Complete clinical improvement with palpable pulse in 37 patients. 16 patients downgraded to Rutherford Class I. Failure in 10 cases. In-hospital complications included thrombotic occlusion of previously unaffected extremity (1 patient), congestive heart failure (1 patient), acute kidney injury (1 patient), compartment syndrome (2 patients). Solumbra thrombectomy is an effective means of revascularization of acute limb ischemia and now we apply this technique in all our patients.

Abstract ID – 2.2.006

An innovative Fluoroscopic Technique for Removal of Migrated Copper-T in a Patient With Anteverted and Anteflexed Uterus

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Background
Copper intrauterine devices (Cu-T) are a widely used contraceptive method but can present complications such as migration or difficult removal, especially in cases with anatomical abnormalities like severe uterine anteversion, cervical stenosis, or fibroids. This case report highlights a novel fluoroscopy-guided approach for Cu-T removal after failed gynecological attempts.

Innovation
An innovative technique combining fluoroscopic guidance with a sheath and snare was employed. Bladder overdistension using a Foley catheter temporarily corrected the uterine anatomy, enabling smooth advancement of retrieval instruments.

Application
A 45-year-old female presented with post-vaginal bleeding and was found to have a bulky uterus with fibroids, a bulky cervix and a Cu-T within the uterine cavity. Gynecological attempts to remove the Cu-T failed due to its migration and cervical stenosis. Cervical biopsy revealed squamous cell carcinoma, necessitating Cu-T removal before radiotherapy. Interventional radiology (IR) was utilized to access the cervix, where an 8-Fr sheath was advanced under fluoroscopic guidance. Severe uterine anteversion and anteflexion initially made the procedure challenging. A Foley catheter was used to overdistend the bladder, partially repositioning the uterus and facilitating sheath placement. A snare was then advanced to grasp and successfully remove the Cu-T under fluoroscopy.

How It Changed Practice
This case demonstrates the effectiveness of IR in managing complex anatomical challenges, offering a minimally invasive, safer alternative to surgical intervention. This same technique can be utilized during endometrial biopsy, uterine collection drainage and fibroid ablation through transvaginal route.

Abstract ID – 2.2.007

Novel Ultrasound guided Antegrade CFA-SFA junction access for Peripheral arterial disease interventions.

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Purpose
Antegrade common femoral artery (CFA) puncture is the preferred approach for ipsilateral distal superficial femoral artery (SFA), popliteal artery, and infrapopliteal interventions. However, guidewire advancement into the SFA can be challenging due to unfavorable angles and limited stump length for maneuvering. This study introduces a novel puncture technique at the CFA-SFA junction to utilize the distal femoral bone for effective compression during peripheral arterial disease interventions.

Materials and Methods
Over the past year, 43 patients underwent peripheral arterial disease interventions using the CFA-SFA junction puncture technique. A 5F arterial sheath was introduced, and a micropuncture access set was used in anatomically challenging cases. All patients were on dual antiplatelet therapy. Hemostasis was achieved through manual compression.

Results
The procedure achieved nearly 100% technical success, with no difficulty in guidewire advancement. Hemostasis was successful in all cases, with a mean manual compression time of 28 minutes (range: 20–43 minutes). One patient (2.3%) developed a pseudoaneurysm, which was treated with thrombin injection. No other puncture-related complications were observed during a one-month follow-up.

Conclusion
The novel CFA-SFA junction puncture technique is a safe, feasible, and highly effective approach for challenging antegrade interventions in peripheral arterial disease, demonstrating excellent technical success and minimal complications.

Abstract ID – 2.2.008

Navigating the ledge: An innovative technique of filter retrieval after carotid stenting

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Background:
Carotid artery stenosis can cause embolic and hemodynamic strokes. Symptomatic stenosis with >50% narrowing often requires stenting. Various stents are available be it open cell, closed cell or dual layered stent. Certain stents are more suitable for certain vessel anatomy and plaque types. Likewise, Open cell stents are preferable in tortuous ICA anatomy and calcified plaques. However, filter retrieval can be challenging due to the ledge effect, where the retrieval sheath gets stuck on stent struts, particularly in residual stenosis or unopposed stent ends. This complication arises from the "fish scaling" of stent struts in tortuous or heavily calcified vessels. Rotation of the neck may straighten out the vessel to some extent. Here we present an innovative technique to deal with this situation.

Innovation:
A combination of a curved guide catheter and balloon can resolve the ledge effect. The curved catheter centers the wire, while balloon inflation flattens the struts and straightens the vessel, allowing smoother filter retrieval.

Application:
This method is simple and can be employed in cases where filter retrieval is anticipated to be difficult, reducing procedure time and complications.

Impact on Practice:
Inability to retrieve the filter post carotid stenting is one of the major complications and warrants surgical removal. This technique helps us to establish a protocol in such difficult situations to make the procedure uneventful.

Abstract ID – 2.2.009

New technique of thermal ablation of significantly tortuous varicose veins for complete ablation

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Background
Endovenous thermal ablation is widely accepted for treating primary varicose veins. However, many patients believe recurrence is inevitable, even after treatment.

Innovation
The traditional approach ablates veins up to the knee or straight sections of the saphenous vein, often leading to incomplete ablation and higher chances of recurrence. Our new technique addresses this by taking initial access at the ankle and achieving complete ablation up to the saphenofemoral junction (SFJ) through a single puncture.
After securing access with a 7F vascular sheath above the ankle, a laser/RF/MWA fiber is inserted. If the fiber cannot navigate tortuous veins, we use a long, hydrophilic wire (e.g., Terumo) guided by ultrasound to negotiate these difficult segments. Once the wire reaches the SFJ, a 7F guiding catheter is advanced over it. The fiber is then inserted through the catheter, allowing precise placement for ablation.
This method ensures complete ablation even in highly tortuous veins. Over three years, we treated 500 patients using this approach, with 290 cases requiring this specific technique. Only 10–15 patients needed a second puncture near the knee.

Application
This technique is ideal for tortuous superficial veins where conventional fibers fail to reach the SFJ, ensuring better treatment outcomes.

Impact on Practice
This innovation has improved patient outcomes, reduced recurrence, and enhanced satisfaction. Minor complications, like temporary numbness above the ankle, resolved within weeks.

Abstract ID – 2.2.010

A Novel Method for Secure Tracking and Placement of a Large Blunt-End Surgical Drain in Retroperitoneal Pancreatic Walled-Off Necrosis: Angioplasty Balloon-Assisted Technique for Safe Insertion Through Pre-Existing Small-Bore Tracts

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Clinical History:
A 38-year-old male with infected retroperitoneal pancreatic walled-off necrosis (WON) required an upgrade from a 20F to a 28F blunt-end surgical drain for effective necrosectomy and drainage. Advancing the larger drain through the existing small-bore tract posed a risk of injury to surrounding structures due to poor trackability over a stiff guide wire.

Treatment Options/Outcomes:
A stiff guide wire was placed through the existing 20F drain, which was then removed. An 8mm x 60mm angioplasty balloon was partially inflated within the lumen of the 28F blunt-end drain. Under fluoroscopic guidance, the balloon-assisted drain was advanced along the guide wire into the necrotic cavity. The inflated balloon stabilized and guided the drain, preventing lateral movement and reducing trauma. After successful placement, the balloon was deflated and removed. The drain was secured, and the patient experienced significant clinical improvement without complications.

Discussion: Traditional methods of advancing large drains through small-bore tracts can lead to procedural instability and increased risk of injury. The angioplasty balloon-assisted technique provides enhanced stability and precise control during drain placement, eliminating the need for additional tract dilation. This novel approach reduces procedural time and minimizes trauma to adjacent structures, offering a safer alternative for managing complex retroperitoneal WON cases.

Take-Home Points:
Angioplasty balloon-assisted drain placement ensures stability and safety through narrow tracts.
This technique minimizes procedural time and reduces injury to surrounding tissues.
Extravascular use of angioplasty balloons expands their utility in interventional radiology.

Abstract ID – 2.2.011

Challenges in Managing Intracardiac Thrombus: Can AI-Modulated Large-Bore Thromboaspiration Under Real-Time TEE Guidance Transform Clinical Practice?

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Background:

Superior vena cava (SVC) syndrome poses significant therapeutic challenges, particularly with intracardiac thrombi, as conventional thrombolysis and surgical interventions risk pulmonary embolism. This case series highlights an innovative approach for managing two patients with SVC syndrome.

Case 1 involved a 64-year-old male with multiple comorbidities, presenting with progressive shortness of breath after pacemaker insertion. CT revealed non-enhancing thrombus in SVC extending to RA and encasing pacemaker leads. Case 2 featured a 39-year-old male on hemodialysis with an expansile thrombus in right brachiocephalic vein extending into the RA-SVC junction, complicated by septic shock and multiorgan dysfunction.

Innovation:

Given the unavailability of AngioVac system in India, a novel technique was adapted using Penumbra™ Indigo Lightening Flash™ system under real-time transesophageal echocardiogram (TEE) guidance. Large-bore thromboaspiration was performed via femoral access, avoiding wire navigation through the thrombus to reduce embolic risks. TEE imaging ensured precise catheter positioning. Blood loss was minimal—500 cc and 250 cc respectively. Aspirated thrombi ranged from friable clots to solid chunks, with fungal hyphae detected in Case 2.

Post-procedure, Case 1 showed complete symptom resolution within 20 days and patent RA-SVC junction on follow-up. Case 2 had immediate symptom improvement but succumbed to sepsis and multiorgan failure.

How it changed the practice:

This minimally invasive technique, using AI-modulated devices and TEE guidance, minimizes risks and blood loss, providing a viable alternative for intracardiac thrombi management in resource-limited settings. If validated through larger studies, it could transform care for thromboembolic conditions where conventional therapies fail.

Abstract ID – 2.2.012

Challenges in managing intracardiac thrombus: can AI-modulated large-bore thromboaspiration under real-time TEE guidance transform clinical practice?

Garg, Shreya;[1] RoyChoudhury, Shuvro; Paulraj, Sabharisundaravel; Khandelwal, Rohit; Gupta, Anadi
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Background:
Superior vena cava (SVC) syndrome poses significant therapeutic challenges, particularly with intracardiac thrombi, as conventional thrombolysis and surgical interventions risk pulmonary embolism. This case series highlights an innovative approach for managing two patients with SVC syndrome.
Case 1 involved a 64-year-old male with multiple comorbidities, presenting with progressive shortness of breath after pacemaker insertion. CT revealed non-enhancing thrombus in SVC extending to RA and encasing pacemaker leads. Case 2 featured a 39-year-old male on hemodialysis with an expansile thrombus in right brachiocephalic vein extending into the RA-SVC junction, complicated by septic shock and multiorgan dysfunction.

Innovation:
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Post-procedure, Case 1 showed complete symptom resolution within 20 days and patent RA-SVC junction on follow-up. Case 2 had immediate symptom improvement but succumbed to sepsis and multiorgan failure.

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This minimally invasive technique, using AI-modulated devices and TEE guidance, minimizes risks and blood loss, providing a viable alternative for intracardiac thrombi management in resource-limited settings. If validated through larger studies, it could transform care for thromboembolic conditions where conventional therapies fail.

Abstract ID – 2.2.013

Simultaneous balloon-snare technique for removal of impacted percutaneous drainage catheter

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Background
Impaction of PCD catheters is relatively uncommon complication. Risk factors include poor handling of catheters and improper removal. This can cause complications like infection and bowel injury.

A 55-year-old-male, case of disseminated tuberculosis, underwent surgery-ileostomy with distal colonic fistula and drain(20French) was placed intra-operatively. After 20 days, while removing drain, its distal end was inadvertently cut and remaining part got pulled inside(impacted drain).

Innovation
Under ultrasonographic-fluoroscopic guidance, drain lumen was punctured using 18G needle and 0.035”guidewire was passed. 6Fr snare was passed over this wire and tried to engage drain tip but this failed as snare could not reach drain tip. Snare was removed and subcutaneous tract was dilated till 24Fr. Then, again keeping snare over wire, 8x40mm balloon was passed over same wire and inflated. Balloon was pulled outward in inflated state and simultaneously, snare(already passed over same wire) was used to engage drain. As soon as drain was engaged by snare, balloon was deflated and whole assembly was withdrawn along with snare. Thus, intact drain could be extracted without any post-procedural complications.

Application
Loop snares are inexpensive with low risk of damage and a high degree of success. However, it is successful only when free end of object can be caught. Since, simple snaring was unsuccessful in this case, an inflated balloon was simultaneously passed on same wire(balloon-snare technique). This technique is cheap and effective and in most cases, open or laparoscopic surgery can be avoided.

Abstract ID – 2.2.014

Unconventional clips and markers in breast cancer: Feasible cheap alternatives to conventional methods

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Background
•Breast-conserving surgery following NACT often requires accurate localization of the tumor bed, particularly for non-palpable lesions and small lesions, which are not localised post-response to chemotherapy.
•Conventional methods, such as breast marker and advanced techniques using radioactive or magnetic markers, are effective techniques available. But, These are costly and few of them require specialized equipment. These constraints make them less feasible in resource-restricted environments.
•We have studied Intravascular coils (0.035” and 0.018”) and Ligating clips (LIGA clips, small and medium size) as breast markers.

Innovation
•Intravascular coils as breast marker clips: either 0.035” or 0.018” coils esp. long lengths were placed through compatible needles.
•Ligating clips: in medium/ large size, were placed in center of lesion using compatible needles

How it changed the Practice
•In a developing country like India, most of Indian population is non- affording, so developing a cheap alternative is a need for an hour, especially in a tertiary care hospital, where most patients are non-affording
•Intravascular coils: These are available in hospital supply, so are deployed free of cost for patient. Moreover, surgeons are happy with localization as coils are very well visualized through naked eye.
•Ligating clips (Surgical LIGA clips) in medium/large size: are very cheap alternative for markers and these are very well localized on simple radiographs, mammography.
•Multiple ligating clips can be deployed as clip mass by deploying multiple clips together to decrease chances of migration.

Abstract ID – 2.2.015

Novel Approach to Anterior Condylar Confluence Dural Arteriovenous Fistula

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Dural arteriovenous fistulas (DAVFs) are acquired pathological arteriovenous communications involving the meningeal vasculature.
We report a case of anterior condylar confluence (ACC) DAVF that was successfully embolized through a transvenous approach with the shortest possible route. This 56-year-old man presented with right sided proptosis, ptosis and lateral rectus palsy with ocular hypertension. Magnetic resonance imaging demonstrated right anterior condylar confluence flow voids with dilated superior ophthalmic vein. Cerebral angiography revealed DAVF supplied by the right ascending pharyngeal artery and draining into the inferior petrosal sinus ultimately draining into dilated superior ophthalmic vein.
We describe a step-by-step approach of the endovascular technique in this case report and anatomical considerations with review of literature on this uncommon entity.

Abstract ID – 2.2.016

Improving efficacy of penumbra aspiration system in a resource poor setting

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Background: This case report discusses an innovative adaptation to improve the efficacy of the Penumbra aspiration system for treating deep vein thrombosis (DVT) in a resource-limited setting. A 48-year-old woman presented with a 12-day history of left lower limb swelling and pain due to extensive DVT in the femoral and iliac veins. Despite initial treatment with anticoagulants and thrombolytic therapy, she experienced persistent symptoms of post-thrombotic syndrome (Villalta score 15). Endovascular aspiration thrombectomy was pursued, utilizing an 8F guide catheter connected via a Y-connector due to the unavailability of a Cat-8 catheter.

Innovation: During the procedure, aspiration efficacy was hindered by frequent thrombus clogging at the catheter tip. Drawing inspiration from the design of the Penumbra Indigo system's separator, the team employed a 3 mm coronary balloon as a makeshift declogger. By inflating the balloon across the catheter tip and using a to-and-fro motion, they effectively dislodged thrombi, enhancing aspiration efficiency while minimizing procedure time, blood loss, and radiation exposure.

Application: The addition of balloon venoplasty further reduced thrombus load by over 90%. Postoperative anticoagulation yielded complete recanalization of iliac veins and femoral vein thrombus resolution at the 6-week follow-up.

How it changed the practice:
This novel approach highlights the utility of repurposing readily available tools, such as coronary balloons, to enhance aspiration performance in challenging scenarios. The coronary balloon technique was cost-effective and performed comparably to the currently discontinued obturator of the Indigo system.

Abstract ID – 2.2.017

Proximal radial access for salvage of brachiocephalic AVF - a different approach

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Learning Objectives & Background
Access problems are frequent in patient of dialysis, more for BC-AVF where draining vein thrombosis & narrowing at times difficult to manage. Long segment floating thrombus in a dilated vein with tight cephalic arch narrowing is difficult as if we dilate arch, thrombus may cause PE and through radial approach difficult to place 8F catheter for thrombectomy.

Clinical Findings & Procedure
70Yrs/F, CKD on MHD, initially on right permcath, developed poor flow, found to have fibrin cap around its tip & proximal shaft, fibrin cap stripping was done, not lasted long. Left BC-AVF created, presented with poor flow. USG/doppler showed, a long segment thick floating thrombus in dilated vein upto shoulder alongwith possible tight cephalic arch narrowing. To Salvage, Mechanical thrombectomy and venoplasty planned. As radial approach not suitable for CAT-8 catheter for the load, we decided to try proximal radial approach after brachial bifurcation, if required with arteriotomy. Using USG guidance, puncture made, wire via AVF directed towards draining vein & 8F sheath placed. Using CAT-8 system, mechanical thrombectomy done, followed by venoplasty of arch but two foci refused to open, treated Using cutting balloon to get an excellent opening with forward flow. Post procedure, sheath removal was as usual.

Conclusion
Proximal radial approach is not much in use as there is no bony support available for haemostasis. With this, even while using 8F sheath, can avoid issue of vascular spasm which is limiting factor and single access enough for entire procedure.

Abstract ID – 2.2.018

Biopsy tract stealing with normal saline post lung biopsy : safe and effective means in pneumothorax prevention

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Background:
Pneumothorax is a common complication of CT-guided lung biopsy, with incidences reaching up to 40%. This occurs due to the disruption of pleural integrity during needle insertion and removal. Minimizing pneumothorax is essential to improve technical success and patient safety.

Innovation:
The technique involves instilling sterile normal saline along the biopsy tract during needle withdrawal. This creates an area of consolidation to seal the tract and prevent air leaks. Normal saline is biocompatible, inexpensive, and readily available, making it ideal for routine use.

Application:
In a clinical study of 382 patients undergoing CT-guided lung biopsies, normal saline tract embolization was utilized. Pneumothorax occurred in 9.16% of cases, with 42% requiring catheter drainage. This method reduced significant pneumothorax incidence without increasing procedural time or cost, and it was easily integrated into existing workflows.

How it Changed the Practice:
Normal saline tract embolization has enhanced the safety of CT-guided lung biopsies by reducing pneumothorax incidence. This has decreased patient morbidity and the need for interventions like chest tube placement, supporting minimally invasive practices and offering a practical solution for radiology worldwide.

Conclusion:
Using normal saline as a tract-embolizing agent is a practical and effective innovation. It reduces pneumothorax risk, enhances procedural safety, and improves clinical outcomes without additional costs. Further research should focus on larger trials to validate these findings and refine best practices

Abstract ID – 2.3.001

Outcomes of Ophthalmic Artery Chemo-Infusion in Bilateral Retinoblastoma: A Retrospective Analysis from a Tertiary Oncology Centre

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Purpose:
To evaluate the outcomes of bilateral retinoblastoma in children treated with ophthalmic artery chemo-infusion (OAC)

Material and Methods:
Retrospective analysis of prospectively maintained database of 88 children diagnosed with bilateral retinoblastoma and treated with OAC - 111 eyes treated over 332 sessions – at Tata Memorial Hospital, Mumbai between November 2008 and November 2024
The children were divided into 3 sub-groups :
Subgroup 1: Both eyes treated with OAC,
Subgroup 2: One eye treated with OAC after enucleation of the other eye,
Subgroup 3: Only the worse eye treated with OAC.
Major outcome measures were technical success, globe salvage rate, procedure related complications and disease free survival

Results:
Technical success was 98.5%. Overall globe salvage rate was 76% with subgroup 2 having the highest rate of 92%, 78% for subgroup 1 and 75% for subgroup 3. Globe salvage rates were 100% for group B retinoblastoma, 85% for group C, 79% for group D and 74% for group E. Recurrence rate was 32% with 36% of children undergoing rescue OAC. Globe salvage after primary OAC was 89% and after rescue OAC was 61%. Most common major complication was retinopathy occurring in 10.8% of all eyes. Minor complications occurred <1% of all sessions.
14 deaths occurred during the study period - none were procedure related, all due to systemic/CNS dissemination. Mean disease free survival was 1068 days in our study.

Conclusion:
Ophthalmic artery chemo-infusion is a safe and effective technique for managing bilateral retinoblastoma, even with advanced grade of retinoblastoma

Abstract ID – 2.3.002

Role of fiducial marker to ablate liver tumors difficult to visualise on CT and USG

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Purpose: This study explores the initial institutional experience of using gold fiducial markers for the ablation of liver tumors, including hepatocellular carcinoma (HCC), which may not be detected by ultrasound, non-enhanced CT, fusion imaging, or contrast-enhanced ultrasound. The inability to visualize these tumors complicates ablation, potentially delaying treatment and increasing disease progression risk.

Materials and Methods: From January to December 2024, five patients with seven liver tumors detectable on dynamic MRI but invisible on ultrasound, non-enhanced CT, fusion imaging, or contrast-enhanced ultrasound were included. Following multiple localization attempts, fiducial placement was planned. Using available cross-sectional imaging, the lesions and adjacent anatomical landmarks were mapped. This was then confirmed on ultrasound, after which a fiducial marker was placed. Coordinates were verified via MRI, and ablation was performed under CT and ultrasound guidance, utilizing the fiducial's visibility on both modalities. We assessed technical and clinical success rates and monitored complications.

Results: Seven liver tumor ablations were accomplished using the fiducial placement technique. All placements followed anatomical landmark correlation after inadequate visualization on USG/CEUS/Fusion imaging. Follow-up imaging demonstrated a 100% technical success rate for ablations on post-ablation CT. No complications, including hematoma or fiducial migration, were noted.

Conclusion: In challenging scenarios, fiducial-guided ablation techniques significantly assist intervention radiologists. MRI imaging, combined with ultrasound landmark localization and fiducial placement, allows precise targeting without necessitating an expensive, complex MRI-guided procedure.

Abstract ID – 2.3.003

Usual Presentation of an Unusual Etiology

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Learning Objectives:
1.Differentiate between benign and malignant causes of hilar block.
2.Highlight the role of histopathological examination in diagnosing rare entities like parasitic infestations mimicking malignancy.

Background:
Hilar block is commonly associated with malignancies like cholangiocarcinoma. However, benign conditions such as parasitic infestations can closely mimic malignancy in clinical and imaging findings. This case reports a rare instance of Fasciola hepatica infestation causing hilar block, initially suspected as malignancy, with a definitive diagnosis achieved postoperatively.

Clinical Findings and Procedures:
A 64-year-old female presented with painless jaundice, pruritus, weight loss, and a history of Type 2 Diabetes Mellitus and hypertension. Imaging showed a Type IIIA hilar block with lesions suspicious for malignancy. Initial cytology revealed lymphocytic infiltration without malignant cells.
Procedures:
1.PTBD (Percutaneous Transhepatic Biliary Drainage): Performed to relieve jaundice.
2.Portal Vein Embolization (PVE): Increased the future liver remnant (FLR) from 28% to 39%.
3.Extended Right Hepatectomy with Caudate Lobectomy and Left Cholangiojejunostomy: Performed to excise the suspected malignancy.
Histopathological Findings:
Postoperative analysis revealed eosinophilic infiltration and parasitic material consistent with Fasciola hepatica.

Conclusion:
This case emphasizes the diagnostic challenges in hilar block cases resembling malignancy. Early recognition of rare etiologies through histopathology can prevent unnecessary aggressive surgeries and ensure appropriate management.

Abstract ID – 2.3.004

Management of Acute Bleeding in Head and Neck region due to Malignant Tumours by Chemoembolization and Coil Assisted Embolization

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Background: Malignant tumours of head and neck region can erode lingual, facial or other adjacent arteries leading to life-threatening bleeding. These can be managed by transarterial chemoembolization without open surgery in sick patients. Aim: To evaluate the safety and effectiveness of chemoembolization and coil assisted embolization in acute bleeding due to malignant head and neck tumour.

Materials and Methods: Clinical and radiological records of all patients presenting with acute bleeding due to malignant head and neck tumour at our centre between October 2022 to November 2024 were analyzed. 9 such cases were identified and all details were noted and assessed. CT Angiography or DSA (digital subtraction angiography) was done followed by embolisation in angiographic suite. In 22% of patients, embolisation was done via liquid agents/ PVA particles/Gelfoam. In 78% of patients, in addition coil embolisation were done via 2-4 mm pushable coil. Post procedure DSA in one/two planes was obtained to confirm the embolization of bleeding vessel.

Results: The technical and clinical success was 100 % in all the cases without any major adverse effect as per SIR criteria. 2 patients (22%) had minor adverse events in form of facial numbness and ear pain which responded well in 24 hours by pain medications. 78 % of patients required coil placement (single coil) in addition to liquid/particle embolisation.

Conclusion: Transarterial embolisation is very effective in the control of bleeding in acute or emergency scenario in malignant head and neck tumors both during chemotheraphy/radiotherapy.

Abstract ID – 2.3.005

Hepatocellular Carcinoma as A Complication of Chronic Budd-Chiari Syndrome (BCS) And Further Management With TACE: A Case Series.

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Background:
HCC is a relatively uncommon complication of chronic BCS, characterized by hepatic venous outflow obstruction. The incidence of HCC in BCS patients varies between 2.0% to 51.6% (1). Endovascular interventions, particularly TACE, have become a key treatment for localized HCC in these patients, offering a minimally invasive alternative to surgery. This case series aims to highlight clinical presentation, diagnosis of three patients who presented with HCC in a background of chronic BCS, with a focus on TACE as a therapeutic intervention.

Methodology:
Here we describe three cases of who were diagnosed with HCC in chronic BCS. All patients underwent a comprehensive diagnostic evaluation including imaging studies, LFTs, histopathological confirmation of HCC and management.

Results:
All three patients diagnosed with HCC had underlying chronic BCS with secondary liver cirrhosis. Biopsy revealed HCC in 2 and fibrolamellar HCC in 1. TACE was successfully performed in all cases, resulting in effective tumour embolization with no immediate procedure-related complications. Post TACE therapy, Lenvatinib in 3 cases, SBRT in 1. All three patients demonstrated stable disease over a follow up period of 18 months. Two of the patients also underwent IVC venoplasty as part of their management. Unsuccessful recanalization in one patient, with possible reason being the post SBRT induced fibrosis.

Conclusion:
HCC can develop as a complication of chronic BCS. Early diagnosis with vigilant surveillance is key. TACE is a safe and effective treatment option for HCC in these patients, offering disease control with minimal impact on liver function.

Abstract ID – 2.3.006

Interventional management of congenital and acquired lymphatic disorders

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Goals are to summarize the current knowledge regarding the various treatment options regarding lymphatic malformations (LMs). Advances in lymphatic imaging and interventional radiological techniques in the treatment of chylothorax and chylous ascites have been discussed.

Outcomes of sclerotherapy were examined in 15 patients with trunk and extremity LMs (mean age 10 years, range-4-52 years).
Picinabil , Bleomycin, Doxycycline and Polidocanol were used.
Each patient received one session followed by 6 weeks follow-up.
Complete regression was observed in 5 patients after first session of sclerotherapy, the remaining patients with larger LMs required few additional sittings.
Two patients with chest and abdominal wall LMs required multiple sittings with significant reduction in size.
A 2-year-old girl had significant right upper limb and chest wall congenital lymphedema. She underwent MR Transpedal lymphangiography with no demonstrable leak from central lymphatic ducts. Conservative physiotherapeutic technique was planned.
Out of 20 patients with acquired lymphatic disorders, 15 patients developed postoperative chylothorax and chylous ascites. All underwent inguinal intranodal lymphangiograms which opacified the lumbar lymphatics, cisterna chyli (CC) and thoracic duct (TD) and leaks. TD was embolized using coils and glue. Two patients with chylous ascites revealed no leak on lymphangiogram; hence, a diagnosis of intestinal lymphangiectasia was given.

Mixed macrocystic and microcystic LMs showed lower clinical responses. In patients with postoperative chyle leaks, TD embolization resulted in significant relief of symptoms in 15 patients.

Recent advances in lymphatic imaging and percutaneous interventions have made radiology critical to the workup and management of lymphatic disorders.

Abstract ID – 2.3.007

Outcomes of Ophthalmic Artery Chemo-Infusion in Bilateral Retinoblastoma: A Retrospective Analysis from a Tertiary Oncology Centre

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Purpose:
To evaluate the outcomes of children with bilateral retinoblastoma treated with ophthalmic artery chemo-infusion (OAC)

Materials and Methods:
Retrospective analysis of prospectively maintained database of 88 children diagnosed with bilateral retinoblastoma and treated with OAC (treatment naïve and previously treated with focal therapies) - 111 eyes treated over 332 sessions – at Tata Memorial Hospital, Mumbai between November 2008 and November 2024
The children were divided into 3 cohorts:
Cohort 1: Both eyes treated,
Cohort 2: One eye treated after enucleation of the other eye,
Cohort 3: Only the worse eye treated
Major outcome measures were technical success, globe salvage rate, procedure related complications and disease-free survival

Results:
Overall globe salvage rate was 84% (93/111) even though the majority of eyes had advanced disease – 83% (93/111) had group D or group E retinoblastoma. The procedure was technically successful in 98.5% (327/332) defined as able to infuse the complete drug into the artery supplying the affected globe. 75% of eyes (72/111) were able to be completely cured or downstaged to focal treatment with OAC. Overall globe salvage rates were 88% for cohorts 1 and 2 and 74% for cohort 3.
Minor complications like lid swelling seen in <3% of overall sessions, while retinopathy was the major complication in 10.8% of eyes (12/111). In children with recurrence, mean disease free survival was 34.7 months.

Conclusion:
Ophthalmic artery chemo-infusion is a safe and effective technique for managing bilateral retinoblastoma, even with advanced grade of retinoblastoma.

Abstract ID – 2.3.008

Extrahepatic Complications Associated with TACE for Hepatic Malignancy- Understand, Avoid and Manage

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Learning objectives:
The purpose of this educational exhibit is to highlight the various extrahepatic complications associated with Transarterial chemoembolization (TACE) and provide strategies for preventing or managing them whenever possible.

Background :
Hepatocellular carcinoma (HCC) is the most prevalent primary malignancy of the liver, constituting the fifth most common cancer in men and the seventh in women. The principle of TACE involves the selective injection of embolic or chemotherapeutic agents to occlude the arterial blood supply to the tumor. It is widely considered a safe procedure, with major complications occurring in fewer than 5% of cases and a mortality rate of approximately 0.5%.

Clinical Findings/Procedure details:
We are categorizing extrahepatic complications into two groups:
The first category pertains to complications associated with the embolic agents, including chemical cholecystitis, gastric and duodenal bleeding from ulcers, acute pancreatitis, splenic infarction and abscess, hemoperitoneum due to tumor rupture, variceal bleeding, pulmonary infarction and embolism, diaphragmatic injury resulting from inferior phrenic artery embolization or pleural pathology (e.g., effusion or empyema), spinal infarction, cerebral lipiodol embolism, partial intestinal obstruction, and renal injury. The second category involves complications related to the access site and catheter manipulation, including hematoma, pseudoaneurysm, arteriovenous fistula, dissection, spasm, and thrombosis. We aim to discuss possible complications, their prevention, and how to manage them if they occur.

Conclusion:
Extrahepatic complications associated with TACE are rare but can occasionally be life-threatening. Early diagnosis and prompt, appropriate management are key to effectively handling these complications when they do occur.

Abstract ID – 2.3.009

The role of selective endovascular embolization of head and neck glomus tumors: definitive or adjunctive or palliative?

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Purpose
Primary: To evaluate safety and efficacy of pre-operative selective endovascular embolization of head and neck glomus tumors
Secondary: To evaluate selective endovascular embolization of glomus tumors as a stand-alone therapy

Materials and Methods
This study retrospectively analyses 12 cases between January 2019 and August 2024 in a tertiary care hospital. Patients were assessed for complications, efficacy (decrease in vascular blush), the surgery undergone, complications during surgery, symptom resolution and tumor resolution. Follow up was at 1, 3 and 6 months.

Results
5 cases were glomus tympanicum, 3 were glomus jugulare, 3 were glomus caroticum and one was tonsillar glomus. PVA + coils were used in 4, PVA only in 7 and embospheres in one. 9 had near total embolization of vascular blush. One patient had 40% residual blush, had a 2nd sitting of embolization following which blush resolved. Two patients had 50% blush resolution.
7 underwent surgical excision of tumor after embolization. There was minimal blood loss during surgery and nil complications. Three patients refused surgery and only embolization was done. They did not have residual/recurrent lesion. Two patients had inoperable lesions and palliative embolization was done, follow up did not reveal increase in size of the lesion. All patients had symptom resolution.

Conclusion
Pre operative embolization of glomus tumors has significant role in bloodless surgical field with minimal complications. This study shows that definitive embolization of glomus tumors is a good alternative to surgery. It’s role in palliation for inoperable tumors is evident.

Abstract ID – 2.3.010

Balloon-occluded Transarterial Chemoembolisation for Hepatocellular Carcinoma: A Series of Cases

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LEARNING OBJECTIVES:
To evaluate the efficacy and safety profile of Balloon-occluded Trans-arterial Chemoembolisation (B-TACE) for the treatment of Hepatocellular Carcinoma.

BACKGROUND:
HCC is associated with high rates of morbidity and mortality hence, various therapeutic strategies have been developed for its management. TACE is a widely used procedure for patients who are not candidates for ablative therapies or liver transplantation. Recently, utilisation of balloon catheters for drug delivery has been proposed to enhance drug deposition and retention within the tumor while minimising non-target embolisation.

CLINICAL FINDINGS/ PROCEDURE DETAILS:
B-TACE was done in 8 cases of HCC who had Child Pugh score </=8 and had liver limited disease (Early or Intermediate stage according to BCLC 2022). Patients underwent B-TACE using balloon microcatheter having a 1.9Fr tip and doxorubicin+lipiodol mixture was utilised as the embolising agent. Follow up MRI was done to assess response to therapy.

RESULTS:
Technical success rate was 100%, desired end point was achieved in all cases. The procedure was well tolerated. 25% patients developed mild features of post embolisation syndrome. On follow up MRI, all the patients had complete response (according to mRECIST criteria).

CONCLUSION:
B-TACE is a technically feasible, safe and effective treatment option for HCC. The enhanced drug deposition and prevention of non-target embolisation may also portend better efficacy. However, further studies with a larger cohort and longer duration of follow up are required to validate these findings and determine change in overall and progression free survival of the patients as compared to conventional TACE.

Abstract ID – 2.3.011

'Taming the Torrent' - A Race Against Ruptured Pseudoaneurysms in Bleeding Orofacial Tumors

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Learning objectives: To evaluate effectiveness of emergency endovascular embolization in managing acute life-threatening bleed in advanced, inoperable head and neck tumors.

Background: End stage head and neck malignancies, including oropharyngeal cancer, are high-stakes clinical challenges due to their aggressive behaviour and varied complications. Beyond the significant morbidity caused by direct tumor invasion, treatment modalities like radiation can introduce their own set of complications. Acute bleeding in cases of advanced tumours can arise from direct tumour erosion into adjacent arterial vasculature or secondary to radiation arteritis. We present spectrum of 5 such cases managed successfully by endovascular embolization.

Clinical Findings/Procedure details:
Case 1: 49-year-old male with advanced squamous cell carcinoma of oropharynx presented with sudden, profuse oropharyngeal bleeding. The patient presented with hypovolemic shock with active bleeding from oropharyngeal lesion. CT angiography identified pseudoaneurysm of maxillary branch of ECA. After medical management emergency endovascular coil embolization was performed successfully.
Case 2: 56-year-old female with history of radiation therapy for oral cancer presented with acute bleeding from non-healing ulcer. The patient was haemodynamically unstable upon arrival, with active bleeding from ulcer site. CT angiography revealed pseudoaneurysm of occipital branch of the ECA. Following medical management, endovascular coil embolization was performed successfully.

Conclusion: Pseudoaneurysm formation is serious vascular complication in patients with advanced head and neck cancers, often exacerbated by radiation therapy/tumour invasion. Immediate management with endovascular techniques are critical for life saving. Both cases highlight need for vigilance in identifying and managing vascular complications in advanced head and neck malignancies.

Abstract ID – 2.3.012

CT-guided percutaneous needle biopsy of retroperitoneal and pelvic lymphadenopathy-Assesment of technique,results and clinical value

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Aims and objectives
To assess the technical success rate, diagnostic yield, and clinical value of computed tomography (CT)–guided percutaneous needle biopsy (PNB) for retroperitoneal and pelvic lymphadenopathy.

Materials and Methods
This prospective observational study included 87 patients evaluated for diagnostic yield and clinical analyses. PNBs were performed with core biopsy in 87 patients from Jan to december 2024. Follow-up analyses, including repeat biopsy, post treatment followup imaging and clinical indicators, were conducted for 12 patients who had nonspecific malignant or benign results. Diagnostic yields were calculated based on biopsy and follow-up results.

Results
Technical success rate was 97.37%. 6 had minor complications. From biopsy results and follow-up analyses, final malignant diagnoses were determined for 80 patients (91.9%). Overall sensitivity, specificity, and accuracy rates of PNB were 97.2%, 100%, and 97.4%, respectively.

Conclusions
CT-guided PNB is a safe, cost-effective procedure that can achieve high diagnostic yields for patients with retroperitoneal and pelvic lymphadenopathy.

Abstract ID – 2.3.013

Pictorial Essay Depicting Interventional Radiology Armatorium In Oncological Pain Management

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Learning objectives
To learn the role of interventional radiology(IR) and various procedures in its armatorium in managing oncological pain.

Background
Oncological pain is an unpleasant sensory/emotional experience ,it can range from mild to severe intensity and can be of nocioceptive(somatic/visceral) ,neuropathic or physiological in nature.The origin of pain is primarily due to tumour related,secondary to cancer related therapy induced and sometimes be totally unrelated.IR procedures can play a major role in advanced disease to alleviate severe neuropathic pain ,reducing the overall analgesic need and their side effects.

Clinical Findings/Procedure details
A comprehensive pain assessment is mandatory to provide treatment options.Various procedures in interventional armatorium can play a major role in advanced disease and can range from elimination or modifying pain source to blocking transmission of pain signals.Direct tumor related pain can be managed with angioembolization,ablation,transarterial chemotheraphies ,sclerotheraphy, vertebroplasty.Pain caused due to tumour and its therapies can be managed by drainage-procedures ,percutaneous-nephrostomy,percutaneouns transhepaticbilliarydrainage (PTBD),sclerotheraphy,vertebroplasty,lymphangiograms and sealing lymphatic leaks,neurolysis or nerve blocks.When elimination of pain source doesn't work,blocking of pain source signals to central nervous system can be achieved by autonomic,peripheral,neuroaxial nerve blocks ,radiofrequency ablation and cryotheraphy.

Conclusion
The overall approach to oncological pain management is multimodal ,comprehensive ,requires evaluation of patients for specific utilizing of pharmacologic/nonpharmacologic interventions.Thorough knowledge on careful selection of patients and procedures are important for achieving optimal outcomes.

Abstract ID – 2.3.014

Neutrophil-to-Lymphocyte Ratio: Unlocking Predictions of Disease Progression Post trans arterial radio embolisation therapy for Hepatocellular Carcinoma

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Introduction : Accurately predicting the response to intra-arterial therapy for hepatocellular carcinoma (HCC) is inherently challenging. The neutrophil-to-lymphocyte ratio (NLR), a serum biomarker linked to survival in various cancers, was hypothesized to be associated with early disease progression following transarterial radioembolisation (TARE) therapy for HCC.

Methods : The study reviewed the outcomes of 58 treatment-naïve patients who underwent radioembolization for HCC between August 2020 to August 2024. Pre-treatment laboratory tests and imaging were analysed to measure NLR, Child-Pugh (CP) scores, tumour count, and tumour size. Patients were categorized into high NLR (>3) and low NLR (<3) groups. Follow-up imaging at two months assessed treatment response using modified Response Evaluation Criteria in Solid Tumours (mRECIST).

Results : Among the cohort, 16 of 58 patients had NLR >3 (range: 3.0–19.5). Patients with NLR >3 exhibited significantly higher baseline CP scores, although comorbidities, tumour size, and tumour number were similar between groups. Disease control was notably worse in the high-NLR group (p = 0.012). Logistic regression analysis identified NLR >3 as the strongest predictor of early disease progression. Discussion NLR appears to serve as a potential serologic biomarker for early disease progression after trans arterial radioembolisation therapy for HCC.

Abstract ID – 2.3.015

Response evaluation of liver-directed therapies for liver metastasis in NET.

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Introduction: This abstract delves into the critical aspect of response evaluation for liver-directed therapies in patients with liver metastases originating from neuroendocrine tumors (NET).

Aims/objectives: To know the effect of liver-directed therapy on hepatic progression-free survival and overall survival.
Material/methods: The records of patients with NET and liver metastasis managed at our institute. Forty-four patients were included in the study.Overall survival and hepatic progression-free survival (HPFS) from initial liver-directed therapy (LDT) by DOTA and FDG-PETCT were identified.

Results: Amongst 44 patients, our hepatic progression-free survival data ranged from 6-84 months, with 2 year HPFS being 48% (21 patients with stable disease at 2 years) with a mean of 26 months. Overall survival ranged from 8 to 120 months, with 3-year overall survival being 53% with a mean of 40 months.

Conclusions: Liver-directed therapy in the form of ablation or transarterial therapy is an accepted method of treatment of unresectable hepatic metastases from neuroendocrine tumors. Our study shows that long-term palliation is possible using liver-directed therapies, especially in those patients who have a predominantly hepatic disease; hence, it could be proposed as first-line non-surgical treatment in this subgroup of patients and could be associated with somatostatin analogues when unable to control hormone-related symptoms alone. In patients presenting with extra-hepatic lesions, it should be initially used in combination with systemic treatments. The need for repeat therapy and the interval between sessions should be tailored according to the patient response, tolerance, and need for palliation.

Abstract ID – 2.3.016

Safety and efficacy of Spy DS assisted Cholangioscopic biopsy in evaluation of indeterminate strictures.

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Background
Indeterminate biliary strictures where definitive diagnosis cannot be established through ERCP or other invasive and non-invasive tests require an adequate tissue diagnosis for effective treatment and management.

Aim
To evaluate the safety and efficacy of SpyGlass DS-assisted cholangioscopic biopsy in the assessment of indeterminate biliary strictures.

Methods
This study included 12 patients presenting with obstructive jaundice in whom malignancy evaluation and adequate tissue diagnosis could not be achieved through non-invasive methods, ERCP, or percutaneous direct biopsy. All patients underwent SpyGlass DS-assisted cholangioscopic biopsy, which guided their subsequent management.

Results
Adequate biopsy samples were obtained in all cases, enabling a definitive diagnosis. Importantly, no procedure-related complications were reported.

Conclusion
SpyGlass DS-assisted cholangioscopic biopsy is a safe and effective tool for evaluating indeterminate biliary strictures, particularly in cases where ERCP and non-invasive methods fail. This technique is invaluable for diagnosing biliary strictures, bile duct tumors, and postoperative tumor recurrence, especially in patients with surgically altered anatomy. Additionally, it offers therapeutic applications, including biliary stone removal, ablative therapy, retrieval of foreign bodies, and removal of migrated ductal stents. This approach significantly aids in both diagnosis and patient management, emphasizing its diagnostic and therapeutic versatility.

Abstract ID – 2.3.017

Successful Treatment of Hypoglycemia in Metastatic Insulinoma with 177 Lu-DOTATATE

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Clinical History: An adult female presented on 01/05/2024 with diffuse abdominal pain persisting for two months and frequent severe hypoglycemic episodes. Contrast-enhanced computed tomography (CECT) revealed an enhancing exophytic mass in the tail of the pancreas with hepatic metastases. A DOTATOC PET/CT scan demonstrated somatostatin receptor (SSTR) expressing soft tissue density in both the pancreatic tail and hepatic lesions. Biopsy confirmed a primary pancreatic neuroendocrine tumor (NET), classified as WHO Grade 2. The diagnosis indicated a pancreatic NET with liver metastases, characterized by hypoglycemic symptoms, likely due to insulin secretion.

Treatment Options/Results: The patient was initiated on chemotherapy (CAPTEM regimen) and received injectable Sandostatin LAR. In June 2024, prior to intra-arterial Lutetium-177 DOTATATE therapy, bland embolization of the hepatic metastases and primary tumor was performed. Despite this, hypoglycemic symptoms persisted. The intra-arterial Lu-DOTATATE therapy was conducted on 19/07/2024, resulting in the resolution of hypoglycemic episodes, with blood glucose levels stabilized at 170 mg/dL.

Discussion: Lutetium-177, complexed with the bifunctional chelator DOTA, binds to the somatostatin analogue (Tyr3)-octreotate. With a half-life of 6.65 days, 177Lu emits short-range β-particles with a maximum tissue penetration of 2.2 mm, effectively targeting peptide receptor-positive tumor cells while minimizing damage to adjacent normal tissue.

Conclusion: Lu-DOTATATE therapy demonstrates high efficacy and specificity, providing a superior alternative to conventional chemotherapy for metastatic pancreatic NETs, with high patient compliance and a favorable safety profile. Its ability to target metastatic lesions enhances its therapeutic potential.

Abstract ID – 2.3.018

Successful Management of Hepatocellular Carcinoma in a Young Adult with CTNNB1 Mutation: A Multimodal Approach Using TACE and Surgical Resection

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Clinical History: A 24-year-old male presented with h/o mild weight loss and dyspepsia since Nov-17, with no significant past medical, surgical, family, or substance abuse history. Imaging revealed multiple lesions in both liver lobes. S.AFP- 0.73 IU/ml, and viral markers were negative. Due the uncommon presentation, a biopsy was performed, which confirmed well-differentiated HCC. Genetic studies identified a CTNNB1 gene mutation, leading to beta-catenin accumulation and activation of the WNT signaling pathway.

Result: The patient underwent two cycles of TACE with lipiodol in March and Jun-18. Concurrently, Sorafenib was initiated, as it is FDA-approved for HCC and inhibits the WNT/beta-catenin pathway. Due to adverse reactions to Sorafenib, treatment was discontinued, and a third cycle of TACE was performed in Oct-18. The three TACE cycles demonstrated interval regression of the lesions. Following assessment of residual normal liver volume, he underwent left hepatectomy with partial right hepatectomy, successfully excising all lesions. He is currently disease-free and on regular follow-up with low-dose Sorafenib.

Discussion: TACE serves as an effective interim treatment to shrink and control tumors in HCC, facilitating subsequent surgical resection and improving surgical outcomes. It aids in downsizing tumors and controlling disease progression, enhancing the feasibility of successful surgical interventions.

Conclusion: Advanced HCC can be managed effectively through a strategic implementation of existing therapeutic measures. Further genetic research is warranted for understanding uncommon presentations of HCC. TACE serves as a valuable bridge to surgical resection, and combination therapies represent a promising direction for future treatment strategies.

Abstract ID – 2.4.001

Now you see it, now you don't! - complete spontaneous regression and reappearance of hepatocellular carcinoma

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Background:Spontaneous complete regression of HCC is extremely rare. Here we present an interesting case of complete spontaneous regression of HCC, followed by recurrence during follow-up.

Clinical-Findings:A 76-year-old male with cirrhosis due to NASH presented with fatigue and serum alpha-fetoprotein(AFP) of 187.5 ng/mL. A CT scan showed a 5.2x5.0x5.1cms LIRADS- 5 lesion in the liver consistent with HCC(BCLC-A). Patient declined a transplant and TACE was planned. Two days before the procedure, he developed jaundice, with a CT scan revealing increased lesion size, loss of arterial enhancement, and bland thrombosis in the PV and IVC. AFP decreased to 94 ng/mL, and inflammation markers were elevated. The TACE was cancelled, and supportive care was initiated. One month later, the patient was asymptomatic, but AFP had risen to 418 ng/mL, and a recurrence of HCC was observed on CT.

Learning-objectives:Spontaneous tumor regression in HCC is linked to factors like tumor-hypoxia, systemic inflammation, infections, and alcohol withdrawal. Occlusion of hepatic artery or PV can impair HCC blood supply. Elevated cytokine levels(IL-2/6/12, IFN-gamma) are associated with spontaneous regression. In our case, newly developed PV and IVC thrombosis, combined with rapid tumor growth outstripping its blood supply contributing to tumor regression, with systemic inflammation possibly playing a role.

Conclusion: Spontaneous regression has been observed in HCC and uncovering its mechanisms could pave the way for novel treatment approaches. Tumor hypoxia and systemic inflammation are key factors in this process

Abstract ID – 2.4.002

The Change in Liver Volume After Inferior Vena Cava And/or Hepatic Vein Venoplasty In Patients With Budd-Chiari Syndrome With at least One Patent Hepatic Vein Presenting With Ascites.

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Background: To assess the effects of IVC±HV venoplasty on liver volumetry and function in individuals with BCS who present with ascites and at least one patent hepatic vein.

Methods: A retrospective analysis was conducted on the clinical data of 17 BCS patients who underwent IVC venoplasty for ascites caused by IVC blockage and at least one patent (pre- or post-venoplasty) HV. The patients had an average age of 42.3 ± 11.9 years, and included 6 males and 11 females. Before the procedure, and three and six months following venoplasty, the patients had liver function tests and abdominal CT scans. Before and after venoplasty, the alterations in liver function and volume were studied.

Results: Each of the 17 patients underwent IVC±HV venoplasty successfully. During the follow-up period, which had a median follow-up of six months, every patient survived. When compared to pre-op, the patients' ascites and liver function had improved three and six months following the procedure ($p < 0.05$). The measurements of the liver volumes before, three, and six months after the procedure were 2077.06 ± 185.53cm3, 1742.00 ± 124.62, and 1632.71 ± 108.29cm3, respectively. There was significant decrease in liver volume between the pre-operative and three months follow-up; three- and six-months follow-up as well. ($p < 0.05$).

Conclusions: IVC±HV venoplasty produced satisfactory clinical results in BCS patients. Following the intervention, there was a progressive decrease in hepatic congestion and an improvement in liver function which correlated with decrease in liver volume.

Abstract ID – 2.4.003

Rescue via the Arc of Riolan in type II endoleak

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Background: A 60-year-old man underwent endovascular aneurysm repair (EVAR) for abdominal aortic aneurysm two years back. The patient was on routine follow-up in which there was a persistent type II endoleak with an increase in aneurysm sac size over past year with patient complaining of mild abdominal pain. CT angiography (CTA) revealed a type II endoleak through the inferior mesenteric artery (IMA) receiving blood from arc of Riolan via the superior mesenteric artery (SMA).

Procedure: The patient was planned for endovascular management owing to the increase in sac size, persistence of endoleak and abdominal pain. The arterial pathway to IMA was identified from the SMA via the arc of Riolan. The IMA was accessed through the arc of Riolan from SMA using a microcatheter and endoleak embolization performed using a combination of NBCA glue and microcoils. Follow-up imaging revealed no further filling of aneurysmal sac with successful embolization of endoleak.

Conclusions: A type II endoleak occurs when there is retrograde filling of the excluded aneurysm sac via an excluded aortic branch, commonly the IMA. CTA remains an excellent tool for demonstration of vascular anatomy and pre-procedural planning in endovascular interventions. Various approaches for endoleak embolization can be performed which should be decided on the basis of culprit vessel and feasibility of endovascular access. This case demonstrated utilization of knowledge of vascular anatomy for successful endovascular management of type II endoleak.

Abstract ID – 2.4.004

Revolutionizing Women's Health by Intervention Radiology: The Transformative Impact of Interventional Radiology from Life-Saving Procedures to Improving Quality of Life

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Learning objectives:
Explore and raise awareness of the transformative impact of interventional radiology on women's health, with a focus on its life-saving procedures and improvement of quality of life. This educational exhibit provides a comprehensive overview of the indications, procedural details, outcomes, and advantages of interventional radiology in women's health relative to other treatment options.

Background :
Women's health is essential not only for improving individual well-being but also critical for overall societal progress in long term. In this educational exhibit, we highlight the importance of interventional radiology in the treatment of various conditions that specifically affect women like fibroids, conditions related to pregnancy like placenta previa and disease more common in female compare to male like goitre.

Clinical Findings/Procedure details:
We will discuss in 10 headings- Uterine artery embolization (UAE) for Fibroid and adenomyosis and Post partum haemorrhage (PPH) Pelvic venous congestion syndrome , Fallopian tube recanalization (FTR) Balloon occlusion for placenta previa, Venous thromboembolism (VTE)- Inferior vena cava filter (IVC) placement and thrombolysis/ thrombectomy for DVT and pulmonary embolism , Nerve block for pain due to gynaecological causes, Genicular artery embolization (GAE) for osteoarthritis , Varicose veins, Breast intervention, Thyroid intervention.

Conclusion:
We hope this educational exhibit spreads knowledge and awareness about transformative role of Interventional radiology utilizing precision-driven, minimally invasive methods to address a broad spectrum of women's issues effectively and addressing the women's health gap so we can improve the health of future generations as well as provide a boost to healthy society.

Abstract ID – 2.4.005

Adrenal Vein Sampling : A Comprehensive Review

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Learning Objective : Highlight the technical aspects and methods of interpretation of Adrenal Vein Sampling from an IR perspective.

Background : Adrenal vein sampling (AVS) is a crucial diagnostic procedure in endocrinology, aiding in the localization and management of primary aldosteronism. This educational poster serves as a visual guide to enhance the understanding and proficiency of interventional radiology professionals in performing and interpreting adrenal vein sampling.

Procedural details: The poster integrates essential information on patient selection, procedural steps, interpretation of results, and potential challenges, providing a practical resource for endocrinologists, radiologists, and allied healthcare practitioners. Emphasise the importance of appropriate patient selection, detailing indications for AVS in the diagnostic workup of primary aldosteronism. Present a flowchart for identifying eligible candidates based on clinical and biochemical criteria. Illustrate the step-by-step process of adrenal vein sampling, including patient positioning, catheterisation techniques, and contrast injection protocols. Highlight key anatomical landmarks and potential pitfalls to ensure procedural success. Interpretation of

Results: Provide a visual guide for interpreting adrenal vein sampling results, including the calculation of lateralisation indices and contralateral suppression. Discuss the significance of lateralisation in guiding targeted adrenal surgery. Address challenges and pitfalls associated , such as catheter positioning errors and anatomical variations. Offer troubleshooting strategies to enhance the success rate of the procedure.

Conclusion: This review serves as a valuable tool for professionals involved in adrenal vein sampling, aiming to optimise procedural proficiency and enhance diagnostic accuracy in the evaluation of primary aldosteronism.

Abstract ID – 2.4.006

PICC lines in pediatric oncology: experience from a tertiary care centre

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Purpose:
To assess technical factors associated with ultrasound and fluoroscopy guided PICC line insertion in children

Materials and Methods:
Retrospective review of PICC lines placed in children at our institute between April to December 2024 was performed. Technical parameters assessed include the vein assessed, guidance used for puncture (USG vs fluoroscopy), number of punctures, guidance used for subsequent manipulation. The procedure time, fluoroscopy time and radiation dose were also documented. Complications assessed include line block, fracture and line infection.

Results:
A total of 23 PICC lines were placed in 21 patients.The median age was 4 years (IQR-3-8 years). 4 french PICC lines were placed in all children. The most frequently accessed vein was the right basilic in 17 of 23 lines. This was followed by the left basilic (4), right brachial (1) and right cephalic vein (1). All punctures were performed under USG guidance, among these initial puncture was unsuccessful in 3 procedures. In 5 procedures, fluoroscopy was used only for final line position, in others fluoroscopy guidance was used for manipulation as well. The median procedure time was 32 minutes, fluoro time 6 minutes. The median radiation dose was 8079.9 mGycm2. No incidence of line block or fracture was reported in the follow up period. There were 2 instances of line infection in the intermediate term.

Conclusion:
PICC line placement, though technically challenging, is an essential procedure in pediatric oncology. Interventional radiologists must be familiar with the technical aspects to ensure success

Abstract ID – 2.4.007

Fistulisation between bronchial arteries/ non-bronchial systemic collaterals with pulmonary arteries in cases of hemoptysis – a CT -based retrospective study

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Purpose: The study aims to identify the presence of fistulisation between bronchial arteries/ non-bronchial systemic collaterals (NBSCs) and pulmonary arteries in cases of hemoptysis on CT.

Materials and methods: Biphasic CT angiography (CTA) scans of patients presenting with hemoptysis were analysed. The CT findings analysed include hypertrophied bronchial arteries or NBSCs; presence, number, and site of fistula between bronchial/NBSC and pulmonary artery.

Results: CTA scans of 98 consecutive patients with hemoptysis were reviewed. The severity of hemoptysis was mild, moderate and severe in 76.5%, 13.26% and 10.2% patients respectively. 53% patients had a prior history of pulmonary tuberculosis. Bronchial arteries were hypertrophied in 41.8% and NBSCs were present in 19.4%. 24.5% patients had signs of fistulization. The fistula was with the right bronchial artery in 7.1%, left bronchial artery in 10.2%, RIMA in 3.1 %, LIMA in 7.1%, right costocervical trunk in 1%, right lateral thoracic artery in 2%, left lateral thoracic artery in 1 %, right posterior intercostal artery in 5%, left posterior intercostal artery in 3.1 %, left inferior phrenic artery in 4.1%. There was significant correlation between amount of hemoptysis and presence of hypertrophied bronchial arteries (r-0.529,$p<0.01$)/NBSCs (r-0.494,$p<0.01$) and fistulisation with pulmonary artery (r-0.646,$p<0.01$).

Conclusion: The presence of fistulae between bronchial arteries/ NBSCs and pulmonary arteries is often under-recognised on imaging.

Abstract ID – 2.4.008

Percutaneous Treatment of Venous Erectile Dysfunction through anterograde approach

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Purpose:
The purpose of these cases are to showcase the effectiveness of percutaneous technique in the treatment of venous erectile dysfunction (VED).Percutaneous procedures, particularly using image-guided techniques, have shown promise in addressing venous insufficiency by selectively occluding abnormal veins responsible for erectile dysfunction.

Materials and Methods:
The treatment strategy for patients was embolization of major penile venous leakage.. The procedures were performed after direct pharmacological stimulation with an intracavernosal injection of 60 mg of papaverine (2 mL ampoule of 30 mg/mL). Following local subcutaneous administration of lidocaine 2% for local anesthesia ,an ultrasound-guide puncture of a penile deep dorsal vein was performed using a stiff 20-G micropuncture set with a 0.018-in. guide wire and 4-French introducer. The introducer was carefully advanced and positioned in close proximity to the radix penis and a diagnostic venogram was acquired confirming venous leakage via periprostatic veins and bilateral internal pudendal veins draining into both iliohypogastric veins .Sheath was upgraded to 5 –F for further intervention.

Results:
Both patients showed significant improvement in erectile function following the procedure. Patient 1, aged 45, had an initial IIEF score of 10, which increased to 22 at 6 months post-treatment. Patient 2, aged 50, had an initial IIEF score of 12, which improved to 24 by 3 months after the procedure. Both patients reported high satisfaction with the results and minimal post-procedural discomfort.

Conclusion:
These results suggest that percutaneous treatment can be a valuable alternative to more invasive surgical methods for managing venous-related erectile dysfunction.

Abstract ID – 2.4.009

PARTO - Plug-assisted retrograde transvenous obliteration in managing gastro-variceal bleed in left-sided portal hypertension

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Learning objectives:
To evaluate the safety, efficacy, and outcomes of Plug-Assisted Retrograde Transvenous Obliteration (PARTO) in managing severe gastric variceal bleeding after failed endoscopic management.

Background:
Gastric variceal bleeding is a life-threatening complication commonly associated with portal hypertension. Plug-assisted retrograde transvenous obliteration (PARTO) obliterates the varices and gastro-renal shunt and offers a targeted, minimally invasive approach in managing severe upper gastrointestinal bleeding, particularly in patients with left-sided portal hypertension.

Clinical Finding/procedural details:
This case series includes 10 patients (7 males, 3 females; age 29–67 years) with acute or recurrent gastric variceal bleeding due to left-sided portal hypertension. All underwent PARTO via the left renal vein and gastro-renal shunt, with vascular plug placement and subsequent gel-foam embolization of varices. Procedural success, defined as complete variceal occlusion on angiography, was achieved in all cases. Patients showed significant clinical improvement, with no recurrent bleeding. At follow-up, three experienced ascites progression, and two required prophylactic endoscopic banding for esophageal varices. PARTO achieved 100% technical success, significant variceal reduction, and minimal complications.

Conclusions:
PARTO has emerged as a safe and reliable solution treating gastro-variceal bleed secondary to left-sided portal hypertension and gastro-renal shunt draining anatomy, particularly after failed endoscopic management. The technique has a high clinical and technical success rate, good short-term clinical outcomes, and is associated with minimal complications.

Abstract ID – 2.4.010

Role of 4D Flow MRI in Clinical Decision-Making in Aortic Dissection for Interventional Radiologists

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Learning Objectives:
1.Discuss 4D Flow CMR-derived parameters such as peak systolic velocity (PSV), false lumen regurgitant fraction (FLRF), and energy loss (EL) in the prognostication of aortic dissection.
2.Highlight the role of 4D Flow MRI in detecting complications following surgical or endovascular treatment.

Background:
Chronic type B aortic dissection (TBAD) is associated with high long-term complication rates and mortality, largely due to progressive false lumen (FL) growth. Current predictive methods based on anatomical parameters, such as maximal aortic diameter, fail to address abnormal blood flow dynamics. Excessive FL inflow relative to outflow increases intraluminal pressurization, exacerbating stress on the aortic wall and driving expansion.

Clinical Findings:
4D Flow CMR enables detailed, non-invasive evaluation of aortic hemodynamics. Elevated parameters such as PSV, FLRF, EL, and systolic flow deceleration are strongly associated with increased rates of aortic expansion. These findings assist in clinical decision-making, guiding timely interventions. Additionally, 4D Flow MRI detects complications like endoleaks or anastomotic leaks, facilitating early reintervention.

Conclusion:
4D Flow CMR-derived metrics, particularly FLRF and EL in the descending thoracic aorta, provide valuable prognostic insights and predict aortic growth early in TBAD. This technique improves risk stratification and the early identification of post-treatment complications, enhancing patient outcomes. This educational exhibit reviews these parameters and their role in advancing the management of aortic dissection.

Abstract ID – 2.4.011

Ultrasound-guided interventions in pregnancy: The TVS advantage

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Learning objectives
To discuss the utility of TVS-guided interventions in pregnant females.

Background
Pregnancy is a physiological condition where the options for an intervention radiologist are limited to avoid unnecessary radiation and intravascular contrast media exposure to the developing fetus. In this scenario, a TVS-guided approach provides an innovative, safe and real-time approach to carry out accessible procedures.
The first case describes a rare case of spontaneous pseudoaneurysm of the ovary in pregnant patient. The second case is a multigravida patient with a caesarean scar ectopic.

Clinical Findings/Procedure details
The first case is a 32-year Primigravida with lower abdominal pain (VAS 9), with no response to oral analgesics. An imaging diagnosis of left ovarian artery pseudoaneurysm was made. Thrombin was injected under TVS guidance with successful thrombosis of pseudoaneurysm sac , which went uneventful, with significant improvement in pain (VAS 9 to 3), and no complications, with thrombosis of the pseudoaneurysm on follow-up.
The second case is a 35-year multigravida with bleeding per-vaginum and lower abdominal pain. Intracardiac KCl and Intrasac Methotrexate were injected under TVS guidance. On follow-up, the bleeding reduced to spotting in 48 hours. Serum Beta HCG returned to baseline levels by 3 weeks. Follow-up TVS evaluation revealed clearance of endometrial contents by 3 weeks.

Conclusion
TVS-guided interventions represent an efficient, risk-free, real time and cost-effective method to carry out procedures effectively in Pregnant patients.

Abstract ID – 2.4.012

The role of dynamic-contrast MR lymphangiography in the imaging prior to lymphatic intervention

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Purpose- Dynamic-contrast MR lymphangiography (DCMRL) is a novel lymphatic imaging technique that allows visualization of the central lymphatics following ultrasound-guided injection of gadolinium-based contrast agent (GBCA) into the inguinal lymph nodes. This study describes our experience of DCMRL in adults with primary lymphatic disorders.

Materials and Methods- Retrospective review of all patients who have undergone DCMRL using a 3T MRI. Technical success, complications and imaging findings (obstruction/leak/reflux) were recorded. Underlying lymphatic diagnoses and the impact of DCMRL on subsequent management were ascertained.

Results- 15 patients underwent DCMRL. Mean(range) age was 35(16-60). 6 patients had chylous ascites. 4 patients had chylous effusion, 2 patients had protein losing enteropathy, 1 patient had plastic bronchitis and 2 patients had iatrogenic leak. 11 studies were technically successful (depicting abdominal and thoracic lymphatics). 3 studies were partially successful (depicting abdominal lymphatics). 1 study failed to depict the central lymphatics. 3 patients experienced mild pain after GBCA injection. No other complications were observed. A lymphatic abnormality was demonstrated in 7 patients. 6 studies demonstrated leakage and 1 obstruction.

Conclusion- DCMRL can identify obstruction, leakage and reflux within the central lymphatics as well define anatomical relationships. This provides important diagnostic information and can inform therapeutic options by identifying sites for lymphatic embolisation.

Abstract ID – 2.4.013

The Soundtrack of Precision : Role of Music during Interventional Radiology Procedures

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Introduction: This study set out to assess the preferences and perceptions about the role of music during
procedures performed in the IR department.

Methods: A cross-sectional survey was
conducted in 2024 using an electronic questionnaire amongst Interventional radiology consultants and fellows after obtaining informed consent. The questionnaire consisted of 12 questions that captured demographic details, designation/position, preference for the type of music, and perceptions of the impact of music.

Results: 102 respondents filled out the questionnaire&majority (n=56, 54.9%) were senior consultants, 24 (23.5%) were junior consultants, and 22 (21.6%) were those pursuing fellowship. 39.2% of respondents reported not playing music during procedures, while 27.5% played it regularly and 33.3% played it occasionally. 74.6 % of the respondents were of the opinion that the radiologist must be involved in choosing the type of music either alone (35.6%) or in consensus with the team (39.3%). 56 (54.9%) of the respondents perceived that playing music would improve the procedural performance. There was no significant difference in perception (p>0.05) for the questions on music;s role in soothing the mood during the procedure, the ability to cause distraction, and improved procedural performance based on the respondents designation or gender.

Discussion: This study shows that interventional radiologists in India believe that music would improve the mood of the team during procedures and impact procedural efficiency.

Abstract ID – 2.5.001

"The dark side of thrombectomy" : A pictorial review of complications in mechanical thrombectomy for acute stroke

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INTRODUCTION AND BACKGROUND
Treatment of patients with acute ischaemic stroke after endovascular management requires an in depth knowledge of both intra- and periprocedural complications in mechanical thrombectomy.

LEARNING OBJECTIVES
This educational exhibit aims to provide a comprehensive understanding of complications associated with mechanical thrombectomy through a pictorial review. By incorporating case-based learning, the exhibit seeks to equip interventional radiologists with practical knowledge to optimize the safety and efficacy of mechanical thrombectomy procedures.

FINDINGS
Broadly we illustrate both intra- and periprocedural complications in this review. The intraprocedural complications include: arterial perforation, dissection, clot embolization to new territory, distal clot embolization in the same territory, and, access site complications. Post procedural complications include: symptomatic intracerebral hemorrhage, post mechanical thrombectomy cerebral edema and vessel reocclusion. Few of the interesting cases included in this review include: management of wire perforation and active bleed in a case of P1 PCA thrombectomy, management of cervical carotid dissection during manipulation of long sheath for M1 MCA thrombectomy, management of clot embolization to ACA territory in a case of M1 MCA thrombectomy, , and, the spectrum of symptomatic intracranial hemorrhage (ranging from HI-1 to PH-2) with case examples requiring decompressive craniectomy.

CONCLUSION
This pictorial review illustrates the various intra- and periprocedural complications of mechanical thrombectomy delving deep into case based illustrations and management strategies. The comprehensive review will serve as a useful primer for interventional radiologists embarking on the journey of acute ischaemic stroke management.

Abstract ID – 2.5.002

All Roads Lead to Rome- Embolization of Caroticocavernous Fistulas

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Learning objectives: In this educational exhibit, we aim to highlight the spectrum of endovascular treatment options in caroticocavernous fistulas (CCFs).

Background: CCFs are abnormal connections between the carotid artery system and the cavernous sinus. They are classified into direct and indirect fistulas depending upon the type of communication. The high pressure within the cavernous sinus leads to compression of the adjacent cranial nerves and increased intraorbital pressure. Early intervention is necessary to ensure complete recovery from symptoms and prevention of disease progression.

Procedure details: CCFs are primarily treated by endovascular embolization, which can be done by transarterial or transvenous route. Transarterial embolization of the venous sac is done using detachable coils with or without liquid embolic agent with balloon protection of the internal carotid artery. Parent artery occlusion is done for large direct fistulas with adequate intracranial cross-circulation. Stent grafts or flow diverters can be used for closure of small direct CCFs. Indirect fistulas are primarily treated by transvenous approach, most commonly through inferior petrosal sinus. Alternatively, access into the venous sac is obtained through the superior ophthalmic vein-facial vein route. This is achieved by direct puncture or surgical exposure of superior ophthalmic vein, direct puncture of angular vein, or catheterization of facial vein by femoral vein approach. Embolization of the venous sac is then done using coils with or without liquid embolic agents.

Conclusion: Endovascular embolization is the treatment of choice for caroticocavernous fistulas and choosing the appropriate route and agent for embolization is essential for technical success.

Abstract ID – 2.5.003

Endovascular Techniques of embolization in challenging cases of Dural Arteriovenous Fistulas

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Background: (DAVFs) are rare vascular malformations that can be challenging to diagnose and treat, particularly when located in atypical sites or presenting with unusual symptoms. This case series explores various endovascular techniques used in managing complex and technically challenging DAVFs.
Case 1: Transvenous Coil Embolization of Suboccipital DAVF A transvenous approach was used to successfully coil embolize a rare sub occipital DAVF who presented with chronic depression and behavioural abnormalities and was fed by feeders from PICA and Neuromeningeal trunk of APA.
Case 2: Transvenous Coil and EVOH Embolization of Posterior Condylar Vein DAVF This technique combined coils and ethylene vinyl alcohol (EVOH) to treat a posterior condylar vein DAVF presenting with tinnitus and tongue fasciculation's.
Case 3: Transarterial Embolization of DAVF with Balloon Protection of Transverse Sinus to maintain dural sinus patency as this sinus was taking part in normal venous drainage of brain parenchyma
Case 4: Pressure Cooker Technique for Transarterial Embolization The pressure cooker technique was used for efficient embolization of a challenging DAVF.
Case 5: Direct Percutaneous Embolization of Orbital AVF A direct percutaneous approach was used to embolize an orbital arteriovenous fistula, with angiographic control with feeders from recurrent meningeal branch of lacrimal artery and main ophthalmic artery.
Case 6: Spontaneous Resolution of DAVF A slow flow transverse sinus DAVF patient was kept on conservative management.
Conclusion. This case series highlights the importance of tailoring endovascular approaches based on the unique anatomy and location of each DAVF

Abstract ID – 2.5.004

Percutaneous Direct-Puncture Embolization Technique for endovascular management of Cirsoid Aneurysm of the Scalp.

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Cirsoid aneurysms are rare vascular anomalies characterized by direct high-flow arteriovenous fistulous connections without a true intervening capillary network. Endovascular techniques have emerged as a minimally invasive technique and offering promising results in an alternative to the surgical excision of Cirsoid aneurysm.
A 32 years male patient presented with pulsatile swelling in the left temporal scalp with tinnitus, where USG showed hypoechoic tortuous vascular channels with high flow vascular malformation on color Doppler study(Image 1). MRI of the brain shows the tangles of T2 hypointense vascular channels and vascular flow voids in the scalp lesion and left temporal scalp vascular malformation with fistulae formation which was feeded from the middle meningeal branch of left internal maxillary artery and left superficial temporal artery (Image 2). The left ECA angiogram revealed glomus type of nidus with supply from the left superficial temporal artery and middle meningeal artery of left internal maxillary artery with larger venous sacs (Image 3). Direct-puncture of the both proximal and distal venous sacs were performed with 22G scalp vein sets with application of proper compression techniques (image 3). Then total 9 ml of 40% of cyanoacrylate (NBCA) mixed with iodized oil (Lipiodol) was injected into the venous sacs under compression technique. Post-embolization left ECA angiogram revealed near-total to complete devascularization of the Cirsoid aneurysm(Image 4). Percutaneous direct-puncture embolization of Cirsoid aneurysms is a safe and effective procedure for Cirsoid aneurysm. It can be affectively used as an alternative to surgical exc

Abstract ID – 2.5.005

The Decisions to Preserve We Make; The Sacrifices We Take: A Case Series of Cervical ICA Pseudoaneurysms and Their Management Strategies

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Learning Objectives
To recognize extracranial carotid pseudoaneurysms in patients with uncontrolled oral or nasal bleeding and determine appropriate management strategies for preserving or sacrificing the parent artery while minimizing neurological deficits.

Background
Extracranial ICA pseudoaneurysms result from deep neck infections, trauma, vasculitis, or iatrogenic causes. Rapid deterioration can occur with bleeding into the nasal cavity or pharynx. Management options include parent vessel occlusion, stent-graft placement, or surgical ligation. Coil embolization into pseudoaneurysm sac is avoided due to risk of mucosal erosion and bleeding.

Clinical Findings and Procedure Details
We present four cases- two pediatric and two adult patients, along with the management strategies employed.
1.An 8-year-old male with massive hematemesis with left cervical ICA pseudoaneurysm with poor cross-flow on DSA treated with covered stent-graft, resulting in good forward flow and exclusion of pseudoaneurysm.
2.A 16-month-old female with epistaxis with left cervical ICA pseudoaneurysm showing no distal ICA flow and good cross-circulation on DSA treated with parent artery coil embolization, but developed mild hemiparesis that improved over time.
3.An 85-year-old male with malignant otitis externa with nasal bleeding and hemodynamically instability with left distal cervical ICA pseudoaneurysm, treated with parent artery occlusion with cross-filling of MCA and ACA.
4.A 70-year-old female with left cervical ICA pseudoaneurysm following parotid biopsy opted for no treatment, with follow-up CT showing increase in size over eight years.

Conclusion
Endovascular techniques including covered stent grafts and coil embolization effectively manage ICA pseudoaneurysms, balancing parent artery preservation or sacrifice and reducing neurological risks.

Abstract ID – 2.5.006

A COMPARISON BETWEEN RUPTURED AND UNRUPTURED ANEURYSMS TREATED WITH FLOW DIVERTERS

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Purpose:
1. To compare the clinical outcomes, procedural challenges, and complications of flow diverters for ruptured versus unruptured intracranial aneurysms.
2. To evaluate the safety and efficacy of flow diverter placement in ruptured aneurysms with Ticagrelor 180 mg versus elective management of unruptured aneurysms.

Materials and Methods:
This retrospective study included patients treated with flow diverters for ruptured and unruptured intracranial aneurysms. Data were collected on aneurysm size, location, procedural duration, intra-procedural complications (e.g., stent migration, thromboembolic events), and post-procedural outcomes (e.g., aneurysm exclusion, morbidity, mortality). For ruptured cases, the initiation of antiplatelet therapy with Ticagrelor and acute stabilization were evaluated. Comparative analyses were performed on procedural success rates, the need for adjunctive therapies, and follow-up outcomes.

Results:
Flow diverters showed high efficacy in aneurysm exclusion for both groups. However, ruptured aneurysms had a higher incidence of intra-procedural complications, including thromboembolic events and rebleeding. Acute stabilization and initiation of Ticagrelor therapy were challenging in ruptured cases. Despite this, procedural success rates were comparable between the groups, with favorable outcomes in selected ruptured aneurysm cases. Adjunctive therapies were more commonly required in the ruptured cohort.

Conclusion:
Flow diverters are effective in treating intracranial aneurysms, with increased challenges in ruptured cases, including complications and management of antiplatelet therapy. Careful patient selection and procedural expertise make flow diverters a viable treatment option in acute settings. Further studies are needed to refine protocols.

Abstract ID – 2.5.007

Intrasaccular Flow Disruptor Treatment of Wide Neck Intracranial Aneurysms

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Learning objectives:
Rationale of using intrasaccular flow disruptor devices in endovascular treatment of wide neck aneurysms (WNA).

Background:
Conventional endovascular methods of treating WNAs include balloon-assisted coiling, stent-assisted coiling & flow diversion (FD). Disadvantages of endoluminal devices like FD or neck bridging stents are jailing of the branching vessel, in-stent stenosis, and need for dual antiplatelet therapy (DAPT) in ruptured aneurysms
In WNAs, intrasaccular flow disruptor devices disrupt blood flow at the interface between the aneurysm neck and parent vessel thereby inducing thrombosis and aneurysm occlusion as well as provides a high degree of metal coverage at the neck of the aneurysm as a scaffold to promote endothelization. Intrasaccular devices do not inherently require DAPT if device protrusion is not encountered, and bail-out stenting is not required. Disadvantage of intrasaccular devices is an increased risk of intraoperative aneurysm rupture

Clinical Findings/ Procedure details:
Three cases of aneurysm exclusion by intrasaccular flow disruptor devices are presented. A 74 years old male with left ICA bifurcation unruptured wide neck saccular aneurysm treated with WEB device. A 42 years old female with a ruptured wide neck ACOM aneurysm managed with Trenza embolizaition device. A 44 years old female with left MCA bifurcation unruptured wide neck saccular aneurysm managed by NEQSTENT coil assisted flow diverter. All the three patients were not willing to take lifelong antiplatelet medications.

Conclusion:
Intrasaccular flow disruptor devices focus on the aneurysm neck and represent a recent revolution in the treatment of WNAs.

Abstract ID – 2.5.008

Telescopic Flow Divertors with Bridging Stent in a Paediatric case of Large Dissecting Cavernous ICA aneurysm.

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Using flow diverters (FDs) to treat giant carotid cavernous aneurysms has achieved favorable clinical and radiologic outcomes in adult population. However, it can also be used off-label in pediatric patients with aneurysms that cannot be resolved with traditional endovascular treatments. However, the treatment of some giant carotid cavernous aneurysms with FDs remains technically challenging, especially in pediatric age group. We report the case of a 8-year-old male who presented with headaches and blurring of vision in left eye. Magnetic resonance images and angiography revealed a left giant partially thrombosed dissecting carotid aneurysm with involvement of cavernous segment of the carotid artery. Because this giant aneurysm involved a long segment of the parent artery, two telescoping FD technique was planned to ensure adequate neck coverage. Since the junction of the telescopic FD were within the aneurysm, a stent was placed at the junction of FDs for stability, which was fully covered by the second FD. The patient recovered from the procedure without any complications, and his symptoms had completely resolved at the 3-month follow-up. A 6-month follow-up catheter angiogram showed near complete resolution of the cavernous segment ICA aneurysm; This case highlights the effectiveness of the telescoping FD technique with a bridging stent in treatment of long-segment giant cavernous carotid aneurysms.

Abstract ID – 2.5.009

Preoperative embolisation of cerebellar hemangioblastomas using N-butyl cyanoacrylate (NBCA) - techniques, efficacy and safety profile: 24 years' experience from tertiary care center (India)

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Purpose: Cerebellar hemangioblastomas (CHBs) are highly vascular posterior fossa tumors that pose significant challenges during surgical excision. Preoperative embolization, particularly with N-butyl cyanoacrylate (NBCA), can reduce surgical blood loss, operating time, and enhance tumor resection, especially in recurrent or residual cases.

Materials and Method: This retrospective observational study analyzed the records of CHB patients undergoing preoperative embolization followed by surgery from January 2001 to April 2024. Data on demographics, angiographic findings, embolized arteries, embolizing agents, complications post embolisation, time interval between embolisation to surgery, surgery duration, blood loss, resection extent, and follow-up were reviewed.

Results: Nine patients (8 males, 1 female) were included, one with Von Hippel-Lindau (VHL) syndrome. Five cases were recurrent or residual tumors. Angiographic evaluation showed an average vascularity reduction of 70% (range: 50%-95%) post-embolization. NBCA, used in 8 cases with concentrations of 9%-25%, effectively addressed pial supply. Eight embolizations were uneventful, while one patient developed a right superior cerebellar artery infarct without significant clinical effects. Surgery followed within 24 hours in 8 cases. The mean intraoperative blood loss was 430 ml (range: 50–1200 ml), and the average operative duration was 4.8 hours (range: 2.5–6 hours). All patients showed improved or unchanged neurological status at discharge.

Conclusion: Preoperative embolization for CHB is a safe and effective approach. NBCA is a cost-effective embolic agent when used by experienced operators. Embolization reduces intraoperative blood loss, shortens surgery time, and facilitates complete tumor excision, particularly in recurrent and residual lesions.

Abstract ID – 2.5.010

CRIBRIFORM PLATE DURAL AVF - A RARE CASE WITH TRANSVENOUS EMBOLIZATION

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Learning objective with Background – Cribriform plate dural AVF is a rare disease. Surgery and trans arterial embolization are common treatment modalities but they can lead to anosmia as it can damage anterior and posterior ethmoidal arteries supplying the olfactory nerve. Moreover, super-selective catheterisation is difficult in tortuous distal vessels and risky as ophthalmic artery is a prominent feeder in most cases.

Case and procedure details -
A 70-year-old female patient, presented with cognitive decline and gait disturbance. Cerebral DSA showed right anterior cribriform plate DAVF fed by branches of bilateral ophthalmic artery, middle meningeal artery (MMA) and internal maxillary artery. It showed drainage via ectatic cortical veins into superior sagittal sinus with cortical venous reflux (Cognard 4 and Borden 3). Through 6F long sheath and 5F distal access catheter Marathon microcatheter was negotiated into left MMA. But distal branches could not be catheterised which supplies the fistula. We changed our plan. Left IJV was punctured and 8F short sheath was placed. 7F guiding catheter was placed in the superior sagittal sinus. Then microcatheter was negotiated into the venous pouch close to the fistula. Multiple coils were deployed in the venous pouch. Marathon was placed in the venous pouch close to the fistula. It was embolized using onyx and squid in a controlled manner under fluoroscopic guidance. Post procedure angiogram shows complete exclusion of the fistula. Patient was discharged with nil complications.

Conclusion – Transvenous embolization is an effective, safe and minimally invasive modality to treat cribriform plate DAVF.

Abstract ID – 2.5.011

BILATERAL PROATLANTAL INTERSEGMENTAL ARTERY TYPE I WITH VERTEBROBASILAR STROKE: A RARE CASE WITH SUCCESSFUL ANGIOPLASTY AND STENTING

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Background -
Proatlantal intersegmental artery (PAIA) is an extremely rare persistent carotid – vertebral anastomosis generally diagnosed by imaging done for unrelated disorders.

Case report -
A 73-year-old female patient presented with history of dysarthria, bilateral upper limb numbness. Patient had recurrent transient blurring of vision over last 1 – 2 months also. MRI brain showed bilateral posterior circulation infarcts.
Cerebral DSA showed severe attenuation of left V4 vertebral artery (VA) with faintly opacified left PICA. Arterial communication between left proximal ICA and V4 left VA was seen – likely PAIA type I. Severe stenosis (70 – 75 %) was seen in distal PAIA. Left PICA originates from PAIA. Basilar artery and posterior cerebral arteries were normally opacified through PAIA. Right VA was occluded at V3 segment. Arterial communication was noted between right proximal ICA with right V4 VA which terminated as right PICA – likely right Type I PAIA.
Stenting of distal left PAIA was planned as patient developed recurrent TIA even on best medical management. The stenosis was crossed with 0.014-inch microwire and distal access catheter was advanced over it through the stenosis. Balloon angioplasty was done. A balloon mounted drug eluting stent was advanced over the microwire and placed across the stenosed segment. Post procedure angiogram showed good wall apposition.
Patient was discharged in stable condition.

Conclusion -
Bilateral PAIA type I is a rare entity which can present with recurrent posterior circulation stroke and TIA due to stenosis and ICAD. Intracranial angioplasty and stenting is a safe and effective treatment in such cases.

Abstract ID – 2.5.012

Evaluation of Inferior Petrosal Sinus Sampling at A Tertiary Care Hospital in Sri Lanka

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Background:
Inferior petrosal sinus sampling (IPSS) is used to differentiate ACTH-secreting pituitary adenomas in Cushing's Disease (CD) and can assist in preoperative tumor lateralization.

Objective:
To evaluate IPSS effectiveness in diagnosing Cushing's disease and lateralizing pituitary adenomas preoperatively.

Methods and Materials:
A retrospective study of 9 patients undergoing non-stimulated BIPSS at the National Hospital of Sri Lanka (Jan 2020–Mar 2023). Data were collected on demographics, clinical features, and laboratory results. Venous blood samples were taken from bilateral inferior petrosal sinuses (IPS) under venogram guidance. Prolactin gradient across the IPS and peripheral vein (PV) was used to establish the success of venous cannulation with a cut-off ratio of >1.8. A pituitary source of ACTH was confirmed if the ACTH gradient across the IPS and PV was >2. Lateralization was considered if the ACTH on one side was 1.5 times higher than the other.

Results:
The mean age was 37.9 years, with 78% female patients. All patients had Cushing's syndrome, and 67% had MRI-confirmed pituitary adenomas. Right IPS cannulation was successful in 100%, while left side was 67%. MRI and IPSS sensitivity for localizing tumors were 67% and 100%, respectively. Lateralization was observed in 78% of patients. There were no major complications. Seven patients with CD on IPSS underwent successful microsurgery with complete cure.

Conclusions:
Our study confirms that IPSS is a safe, highly sensitive procedure for diagnosing Cushing’s disease and lateralizing pituitary tumors. However, its high cost and invasiveness warrant a case-specific approach.

Abstract ID – 2.5.013

Endovascular treatment for Anterior Communicating Artery Aneurysms: Technical success and clinical outcome in a single center experience

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Background: Ruptured or unruptured ACOM aneurysms are most common location of intracranial aneurysms and can be managed by endovascular route.

Purpose: To evaluate technical, clinical success, complication and mortality rate of endovascular treatment of ACOM aneurysms.

Materials and Methods:
•This single-center 2-year retrospective-study included 20 patients, with 19 ruptured ACOM aneurysms treated at our institute.
•Endovascular treatment of aneurysm included simple coiling, stent/ balloon assisted coiling, intra-saccular devices or flow diverters.
•Technical success assessed by using Raymond Roy Occlusion Classification.
•Follow-ups assessed angiographic occlusion and clinical recovery.

Results:
Of 19 patients with ruptured ACOM aneurysm, 13/19 (69 %) presented with SAH (Garde I-IV) with 6/19 (31%) having associated AIH hematoma. Aneurysm locations: Right (6/20) or left (10/20) A1ACA-ACOM junction and ACOM (4/20). Mean aneurysm dome and neck sizes were 8.2 and 3.8 mm. Endovascular interventions: Simple coil embolization: 10/20, Stent Assisted Coiling: 3/20, Balloon Assisted Coiling: 1/20, Flow Diverters: 3/20 (2 with additional coiling), Intrasaccular device (3/20). Average hospital stay -8.5 days. Complication: Paraplegia due to vasospasm -2 patients (10%), intraprocedural aneurysm rupture -1 patient (5%). Mortality in 2 patients (10%). Follow-ups at 6 months (MRI) and 1-2 years (DSA) showed that among 10 patients who underwent simple coiling, 70% patients achieved complete aneurysm obliteration (RROC I) while 30% had residual necks (RROC II).

Conclusion: Endovascular therapy has high technical and clinical success rate in management ACOM aneurysm with acceptable level of complications.

Abstract ID – 2.5.014

Carotid Artery Stenting- A Single Centre Experience

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Introduction:
Carotid atherosclerotic disease is a leading cause of acute ischemic stroke. Embolic shower and thrombotic luminal occlusion due to complex plaques are important mechanisms of stroke. Carotid artery stenting is the treatment of choice.

Purpose: To study a single centre experience of carotid artery stenting, its indications and procedure outcome.

Methodology:
Retrospective study, duration 1 year. All patients undergone CTA prior to stenting, degree of stenosis noted. Procedural details and post procedural details were also evaluated. Two types of stents – open and closed cell stent. Stenting and post op care - according to institutional protocol.

Results:
The mean age -60, M:F ratio -15:1. DM- 37.5% (6), HTN- 56.25% (9). Left side stenting- 56.25 % and Right-side stenting- 43.74 %.
The mean % of stenosis (NASCET criteria) -70.8 %, mean length of the stenosis -17.14 mm.
Pre stenting angioplasty done in 10 patients, EPD were used in 15 patients, 12 patients required post stenting angioplasty (inadequate stent expansion).
Closed cell stent in 13 patients and open cell stent in 3 patients. The mean duration of hospital stay ~ 4.8 days. 12 patients had no post procedural complication, 3 patients expired post procedure.
On 1 month follow up, no TIA/ stroke event was observed in these patients.

Conclusions:
Carotid artery stenting is mainstay of management for significant carotid artery stenosis. In this study, majority (75%) had no complications post procedure and good clinical outcome (no incidents of TIA/stroke during the 1 month follow up).

Abstract ID – 2.5.015

Outcomes of endovascular treatment of paraophthalmic ICA aneurysms in a tertiary care center

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Purpose
To assess outcomes of endovascular treatment of paraophthalmic ICA aneurysms in a tertiary care center

Materials and methods
This is a retrospective study of patients between June 2021 and March 2024. The endovascular treatment method was based on aneurysm characteristics, other aneurysms, subarachnoid hemorrhage and age of patient. All treatments were performed under general anesthesia. Follow up with MRI/CT angiography was performed at 3-, 6-, and 12-months. Raymond–Roy grading and OKM classification were used for aneurysm occlusion assessment. Neurological examinations were performed to evaluate ischemic or hemorrhagic complications in the postoperative period.

Results
The study includes 16 patients. Average age was 57.5 years with 13 females and 3 males. Patient complaints included headache, vomiting and blurring of vision. Medical comorbidities included hypertension and diabetes. Unilateral aneurysms were seen in 11 patients and bilateral aneurysms in 5. 11 had ruptured aneurysms while 5 had unruptured aneurysms. 4 patients were treated by simple coiling, 7 by balloon assisted coiling and 5 by flow diverter stents. Aneurysms treated by coiling were immediately occluded while aneurysms treated with flow diverter placements got occluded over a 6-month period. Symptom resolution was seen in all. Visual deficit improvement was seen in 3 patients who presented with it. 4 patients of ruptured aneurysm had signs of vasospasm and were treated with intra-arterial nimodipine injections. There were no complications, no post procedural increase in morbidity and no mortality.

Conclusion
Endovascular treatment of paraophthalmic ICA aneurysms offers satisfactory radiological and clinical outcomes with minimal complications

Abstract ID – 2.5.016

Basilar Artery Stenting in Symptomatic ICAD: Case Report insights and Review of Outcomes

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Learning Objectives:
1.Understand the role of basilar artery (BA) stenting in managing symptomatic intracranial atherosclerotic disease (ICAD).
2.Identify key procedural considerations and outcomes associated with BA stenting.

Background:
Intracranial atherosclerotic disease (ICAD) involving the basilar artery (BA) is a significant cause of ischemic stroke in the posterior circulation. Patients with symptomatic BA disease refractory to best medical management are at high risk for recurrent stroke and poor outcomes. Endovascular stenting has emerged as a promising intervention in these cases, offering long-term vessel patency.

Clinical Findings:
We reviewed 56 studies on BA endovascular interventions. Stent-assisted angioplasty demonstrated high technical success rates with substantial symptomatic relief. Recurrent stroke rates decreased 3% annually compared to 12% with medical management. Complications included in-stent restenosis, perforator infarctions, and periprocedural hemorrhage. Technical advancements, such as the use of undersized stents to minimize vessel dissection and low-profile balloons for pre-stent angioplasty, have been associated with lower complication rates. We present a 60-year-old who experienced recurrent transient ischemic attacks despite optimal medical management. Angiogram revealed near complete occlusion of Basilar artery. Angioplasty of the entire basilar artery followed by drug eluting stent placement was performed. The procedure was successful, with complete recanalization of basilar artery and opacification of all its branches. Post-procedural follow-up at two months showed no recurrence of symptoms.

Conclusion:
BA stenting offers a viable treatment option for symptomatic ICAD, potentially reducing recurrent ischemic events and improving outcomes. However, it requires meticulous planning and experienced operators to manage technical and clinical challenges.

Abstract ID – 2.5.017

Anterior cranial fossa dAVF: always a differential of atypical basifrontal haematoma

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Learning objectives Anterior cranial fossa dural arteriovenous fistulae (DAVF)-Endovascular management is the accepted norm of therapeutic option today. Angiographic anatomical knowledge helps in decision making Choosing a suitable embolisation agent-liquid embolic agent helps fistula obliteration. Background Primary Dural arteriovenous fistulae (dAVF) involving the anterior cranial fossa (ACF) are rare, unique form of aetiology in cases of acute hematoma in basifrontal parenchyma. ACoM and DACA aneurysms are the common cause of non-traumatic acute hematoma or SAH in basifrontal lobe.Conventionally, surgical disconnection is considered as the management option, rising trend of endovascular treatment has gained importance. Neuroangiographic anatomy should be thoroughly understood. Clinical Findings: Features analysed were demographic details, symptoms, angioarchitecture, treatment course, angiographic results, procedural complications, and follow-up. This study included ten patients. Clinical symptomatology was as intracranial haemorrhage in 8 patients, headache, and chemosis in the eyes. Most of the DAVFs (80%-8/10)were Cognard type 4; the rest two are of type 3. The anterior ethmoidal branches of the ophthalmic artery are the most common arterial feeders (bilateral in 10/10), frontal branches of the middle meningeal artery (MMA) (6/10), and multiple ECA internal maxillary branches. The arterial route was the choice for access. Complete fistula obliteration was achieved in all. One patient suffered a postsurgical new hematoma. No clinical or angiographic recurrence was noted.

Conclusion: All ACF base dAVF are high-grade dVAF with cortical venous reflux that needs emergent treatment. Individualistic case-based approach depending upon the angioarchitecture and endovascular management to be performed.

Abstract ID – 2.5.018

Transorbital Inferior Ophthalmic Vein Approach for Trapped Carotico-Cavernous Fistula

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Background
- Carotico-cavernous fistula (CCF): abnormal communication between internal/external carotid artery and cavernous sinus
- Symptoms: chemosis, proptosis, double vision
- Traditional treatment: endovascular embolization via transarterial route

Case Presentation
- 58-year-old male with chemosis, mild proptosis, and double vision after minor trauma
- Diagnostic six-vessel DSA revealed indirect CCF with feeders from meningeal branches of right ICA
- Planned for embolization via transvenous approach

Procedure Details
- Microcatheters inserted via right internal jugular vein into right inferior petrosal sinus
- Trapped CCF without direct communication with sinus identified
- Direct exposure of inferior margin of right orbit, inferior ophthalmic vein exposed and cannulated
- Microcatheter inserted into trapped CCF, embolized using endovascular coils

Results
- Post-embolization angiographic runs showed complete obliteration of CCF
- Near complete resolution of symptoms, residual refractive error corrected with spectacles

Conclusion
- Transarterial approach is well-established for CCF embolization
- Transvenous and direct transorbital methods offer alternative solutions for anatomical/pathological challenges
- Good clinical outcomes achievable with these alternative approaches

Abstract ID – 2.5.019

Ultrasound guided retrograde internal jugular venous puncture in neurointerventional procedures

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Purpose: To evaluate the safety and efficacy of ultrasound guided retrograde internal jugular venous (IJV) puncture in neurointerventions.

Methods: This is a single center retrospective study evaluating the data over 20 years. All the punctures were done under general anesthesia using USG guidance.

Results: In this study, there were 60 patients (males, n=38, 63% and females, n=22, 37%). The median age was 33 years (13 to 73 years). Overall, 74 retrograde jugular punctures were done. Isolated right sided punctures were done in 31 patients (52%), isolated left sided punctures in 18 (30%) and 11 patients (18%) underwent bilateral punctures. All the punctures were ultrasound guided and technically successful. The preferred access needle was 18G needle, however in some cases micro puncture access was taken. The smallest sheath used was 4F, the maximum was 8F and the most used was 5F (n=29, 48%). The most common indication was mechanical thrombectomy for cerebral venous thrombosis (62%). Others were transvenous embolization of carotid-cavernous fistulae (16%), embolization of cerebral dural arteriovenous fistulae (8%), inferior petrosal sinus sampling (8%) and cerebral venous sinus angioplasty or stenting (6%).

Conclusion: Ultrasound guided retrograde IJV puncture is a safe and effective method to gain access to neurovascular pathologies demanding transvenous approach. Being closer to the site of pathology and bypassing the anatomical limitations, jugular access cuts down on some major hardware and thus the cost as compared to the conventional femoral approach, as well as reduces the procedure time without compromising patient safety.

Abstract ID – 2.5.020

Treatment of indirect CCF with difficult access- through inferior petrosal sinus- our experience

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Background
Endovascular embolization is preferred treatment of indirect CCF. The embolization becomes difficult and challenging in cases where the conventional vascular access to the cavernous sinus is occluded.

Aim
In indirect CCF trans-venous embolization is preferred and IPS is most preferred route. However in chronic case, there is inferior petrosal sinus occlusion. We are describing cases of with no patent venous access through inferior petrosal sinus with recanalization of IPS. This study aimed to evaluate technical success and difficulty in recanalization of IPS.

Methods and Materials
A single-Centre prospective study involved 26 consecutive patients who underwent endovascular treatment for indirect CCF from 2013 to 2023. Embolization was done in trans-arterial, trans-venous or combined route. Out of these 4 patients were treated by recanalization of IPS with microwire and micro catheter.

Results
Out of the 4 patients treated with recanalization of IPS, however during procedure in rupture with venous hemorrhage was noted in 1 case, which was controlled with reversal of heparin and coiling of CCF. We achieved curative embolization in all of the cases.

Conclusion
In indirect CCF trans-venous embolization is preferred and IPS is most preferred route. In case of no direct venous route for embolization. Tunnelling of inferior petrosal sinus can be effective method.

Abstract ID – 2.5.021

Experience with the Pipeline Vantage Flow Diverter in the Treatment of Broad Neck Aneurysms: A Case Series

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Introduction: The Pipeline Vantage flow diverter is the latest innovation in flow diversion technology, designed to optimize deployment and improve clinical outcomes, particularly in broad neck aneurysms that are difficult to manage with conventional endovascular techniques. In this case series, we present our experience using the Pipeline Vantage device, focusing on technical success, safety, and short-term outcomes.

Materials and Methods: This retrospective case series includes 10 patients treated for broad neck aneurysms with the Pipeline Vantage flow diverter between July 2023 and September 2024. All patients underwent image-guided endovascular placement of the device. Technical success, defined as successful deployment of the flow diverter without intraoperative complications, was recorded. Clinical outcomes were evaluated at discharge and follow-up, using the modified Rankin Scale (mRS). Follow-up imaging was conducted at 6 months post-procedure to assess aneurysm occlusion

Results: The Pipeline Vantage flow diverter was successfully deployed in all 10 cases (100% technical success). No intraoperative or periprocedural complications were observed. Follow-up angiography at 6 months demonstrated complete aneurysm occlusion in 100% of cases. Clinically, 90% of patients achieved an mRS score of 0-1 at discharge, with all patients maintaining favorable outcomes at follow-up

Conclusion: The Pipeline Vantage flow diverter offers a reliable and effective treatment option for broad neck aneurysms, with 100% success in this series of 10 cases. Continued monitoring and larger studies will help further substantiate these findings and evaluate long-term outcomes.

Abstract ID – 2.5.022

Direct carotid puncture Mechanical Thrombectomy in medium vessel occlusion(MEVO) stroke with use of Obtura closure device for hemostasis

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INTRODUCTION
Though manual compression (MC) is widely used method of hemostasis for transcarotid artery revascularization (TCAR), ongoing anticoagulation and high INR can be challenging for hemostasis. We report an operated case of aortic arch replacement presenting with AIS. MT was performed with direct left CCA puncture with post intervention hemostasis achieved with Obtura VCD.

CASE
40 year old male patient, while recovering from redo Bentall procedure, developed acute stroke on post operative day 10 (NIHSS 15). CT cerebral angiogram showed left M2-MCA inferior division occlusion (ASPECT 8). Patient was planned for direct MT in view of high NIHSS & contraindication for IV thrombolysis due to recent surgery and high INR of 2.9. We deferred conventional approaches due to replaced Ascending aortic arch, arch debranching & residual thoraco-abdominal aortic dissection flap.

INTERVENTION
Under general anaesthesia, native left CCA was punctured under ultrasound guidance with micro puncture access set, followed by placement of 8Fr 11 cm introducer sheath. With roadmap, Red 62 reperfusion catheter was navigated up to the thrombus & mechanical thrombectomy done with a direct aspiration first pass technique (ADAPT). The clot was removed achieving mTICI 3 flow. Hemostasis was achieved with 8Fr Obtura VCD. Due to high INR, manual compression was not attempted.

OUTCOME
The patient regained power in right upper - lower limb on the following day of MT. Following day neck ultrasound examination revealed normal arterial puncture site. The patient was discharged with MRS 0.

CONCLUSION
Obtura VCD is safe and effective for carotid hemostasis.

Abstract ID – 2.5.023

Time is brain; A successful endovascular thrombectomy for acute ischemic stroke; A case report.

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Introduction
Thrombectomy is an interventional procedure by which a thrombus is removed under image guidance in acute ischemic strokes. The primary purpose of this is rescuing the ischemic penumbra. Here we present a case of thrombectomy which was done timely and successfully.

Case report
A thirty six year old previously well male patient presented with acute left sided body weakness within two hours after the onset of the symptoms. His National Institutes of Health Stroke Scale (NHISS) score was 10/42. NCCT brain revealed dense Right (R) MCA sign. No hemorrhages (ICH). He was thrombolized using intravenous Tenecteplase and referred for mechanical thrombectomy. Totally occluded distal R/internal carotid artery (ICA) was identified during the initial R/ ICA digital subtraction angiogram (DSA). R/ middle cerebral artery (MCA), anterior cerebral artery (ACA) were not opacified. L/ ICA angiogram demonstrated cross flow in to R/ACA but no flow into R/ MCA. Neuron Max 088 guiding catheter was inserted to proximal R/ ICA and suction applied using Penumbra suction system. The R/ ICA clot was aspirated. The R/ MCA clot negotiated using 5MAX ACE catheter, 3MAX micro catheter and 0.012 microguide wire combination. Final R/ ICA DSA showed modified treatment in cerebral infarction score (mTICI) class 2c reperfusion. Door-to- needle time was 4.5 hours and door-to-recanalization time was 5.5 hours.

Conclusion.
This successful intervention demonstrates the effectiveness of mechanical thrombectomy in addressing acute ischemic stroke and underscores the importance of timely and precise treatment in improving patient prognosis.

Abstract ID – 2.5.024

Floating threats: Advancing Care with Endovascular Interventions for Free Floating Carotid Thrombus

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Introduction:
Carotid free-floating thrombus poses a significant risk of embolic stroke, necessitating prompt intervention. Neurointervention expertise and hardwares have improved dramatically in past decades with mechanical thrombectomy becoming standard care in acute ischemic stroke. This study aims to assess the efficacy of endovascular management for CFFT at our centre.

Objectives:
•To determine the technical success rate in achieving complete thrombus removal.
•To assess post-procedure neurological outcomes and complication rates.

Methods:
We conducted a retrospective analysis of 10 patients with CFFT who underwent endovascular intervention between 2017-2023. Thrombus characteristics, procedural details, and clinical outcomes were assessed.

Results:
A total of 10 patients with mean age of 55.6± 14.5 years were identified. The NIHSS was 5 (range 0–13) at presentation. Common presentation was ischemic stroke. None of the patients had intracranial large vessel occlusion. The most common location was the proximal cervical ICA. Patient were initially placed on medical management. In the view of worsening status/recurrent symptoms, decision for endovascular intervention was taken. Complete recanalization was achieved in all patients with thrombectomy using double neuron max catheter for aspirational and if failed using stent retriever. 4 patients required additional carotid stenting. There were no intraoperative complications. At last follow-up all patients had good clinical outcome (mRS <2).

Conclusion:
While further studies with larger cohorts are needed to confirm our findings, these results suggest that endovascular thrombectomy should be considered a valuable option in the management of CFFT, reducing the risk of embolic stroke and improving patient outcomes.

Abstract ID – 2.5.025

Double Spinal Dural Arteriovenous Fistulas: A Rare Diagnostic Challenge with Significant Clinical Implications

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Learning Objectives:
1. To recognize the clinical and imaging features suggestive of spinal dural arteriovenous fistulas (SDAVFs).
2. To understand the diagnostic challenges and importance of identifying double SDAVFs.
3. To appreciate the role of endovascular and surgical management in optimizing outcomes for patients with double SDAVFs.

Background:
Spinal dural arteriovenous fistulas (SDAVFs) are rare vascular anomalies that can lead to progressive myelopathy due to venous congestion. Double SDAVFs, characterized by two distinct fistulas occurring within the spinal dura, represent an exceedingly rare and underreported phenomenon. It is seen in 1-2% cases. This condition poses significant diagnostic challenges due to overlapping clinical and radiological findings, often delaying treatment and worsening prognosis.

Clinical Findings/Procedure Details:
We present a case of a 62-year-old male with progressive lower limb weakness over 10months. Initial MRI revealed spinal cord edema and flow voids, consistent with venous congestion. Digital subtraction angiography identified two separate dural arteriovenous fistulas located at T6 and T8 levels, supplied by branches of the intercostal arteries. Endovascular embolization of fistulas was successfully performed. Post-intervention, the patient demonstrated significant clinical improvement with resolution of symptoms over 6 months of follow-up.

Conclusion:
Double SDAVFs are a rare but critical diagnosis in patients with progressive myelopathy. A high index of suspicion and meticulous angiographic evaluation are essential for identifying multiple fistulas. Early and precise intervention using a multimodal approach can result in favourable clinical outcomes, emphasizing the importance of multidisciplinary management in these complex cases.

Abstract ID – 2.5.026

Pre-operative Endovascular ethylene-vinyl alcohol (EVOH)copolymer embolization in Hyper-vascular Meningiomas.

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Introduction: Hypervascular meningiomas present significant challenges during surgical resection due to the risk of intraoperative hemorrhage and decreased field visibility. We presents two cases of preoperative endovascular Onyx embolization of hypervascular meningiomas using a modified pressure cooker technique, demonstrating its efficacy and safety in reducing the vascularity and facilitating safe tumor surgical resection.

Case Presentation:
Case 1: A 38-year-old male presented with a two-month history of behavioral changes and memory impairments. Contrast MRI revealed a hypervascular meningioma in the right frontoparietal region.
Case 2: A 68-year-old female exhibited progressive left-sided weakness and memory impairment. Imaging suggested a hypervascular meningioma in the left sphenoid wing.

Methods: Both patients underwent selective digital subtraction angiography (DSA), which revealed hypervascular tumor blushes predominantly supplied by branches of the external carotid artery.

Using the modified pressure cooker technique, the middle meningeal artery feeders were selectively cannulated as distally as possible, and embolization was performed with diluted ethylene-vinyl alcohol copolymer (Onyx). Check angiogram showed over 90% devascularization of the meningiomas in both patients.

Results: Both patients subsequently underwent en bloc resection of the meningiomas with minimal blood loss and improved intraoperative visualization, resulting in decreased technical challenges during the procedure.

Conclusion: Preoperative transarterial endovascular Onyx embolization of hypervascular meningiomas is a safe and effective adjunct technique that reduces intraoperative blood loss, shortens operative time, and facilitates en bloc tumor resection with fewer technical difficulties. These cases underscore the value of this approach in enhancing surgical outcomes for patients with hypervascular meningiomas.

Abstract ID – 2.5.027

Endovascular management of various intracranial aneurysms in a tertiary care hospital: Focus on type based approach and their outcome.

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Purpose:
This study evaluates the role of endovascular techniques in managing intracranial aneurysms and assess the clinical outcomes of various treatment modalities based on aneurysm type.

Materials and Methods:
A retrospective observational study included patients diagnosed with intracranial aneurysms, assessed using CT angiography (CTA), MR angiography (MRA), and digital subtraction angiography (DSA). Endovascular treatments included coiling, balloon-assisted coiling, stent-assisted coiling, flow diversion, and parent artery occlusion. Data were collected over 24 months from procedures performed at our institute.

Results:
A total of 32 patients underwent CT/MR angiography and cerebral DSA. 19 patients with saccular aneurysms were treated with coil embolization and stent-assisted coiling. 3 patients with dissecting aneurysms were managed with flow diversion or vessel sacrifice. 2 patients with fusiform aneurysms received flow diverter stents, and 2 with mycotic aneurysms were treated with balloon-assisted coiling and antimicrobial therapy. 6 patients with blister aneurysms underwent coil embolization. 12 patients with wide-neck aneurysms were treated with 3D complex coiling, balloon-assisted coiling, intracranial stenting, and ONYX balloon-assisted filling. The overall technical success rate was 92%. Complications occurred in 20% of patients, primarily minor issues like headache and vertigo, with rare major complications, such as aneurysm rupture and cerebral infarction. Two procedure-related mortalities occurred. Follow-up data showed significant improvement in patients' quality of life, with most returning to normal activities within three months.

Conclusion:
Endovascular management of intracranial aneurysms is a safe, effective alternative to traditional surgery, offering high success rates and fewer complications across various aneurysm types.

Abstract ID – 2.5.028

First deployment of the novel Contour neurovascular system for intracranial aneurysm in Sri Lanka: Our experience in an acute setting

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Learning Objective
Describe our first experience of deploying the Contour™ endosaccular device in an acute setting on a patient with a ruptured ACOM aneurysm.

Background
A 63 year old female presented with diffuse subarachnoid haemorrhage. CT and digital subtraction angiography (DSA) confirmed the presence of a wide necked aneurysm of the anterior communicating (ACOM) artery incooperating both A2 origins. Intervention was expedited due to patient suffering a second aneurysm rupture.

Procedure details
Following standard femoral access, the aneurysm sac was selectively cannulated with a microcatheter. A 5mm Contour™ device was successful deployed across the aneurysm neck. Post procedure angiogram revealed satisfactory device placement, intrasaccular stasis and continued patency of bilateral ACA. Post-operative recovery was prolonged and complicated due to development of pneumonia and septicaemia. Serial NCCT revealed resolution of the subarachnoid blood with no fresh haemorrhage or acute infarctions. MR angiography at 1 month revealed stable device position, no aneurysm filling and continued patency of both anterior cerebral arteries.

Conclusion
Additional advantages to the device include ease of use, simplified sizing, averts need for long term dual antiplatelet therapy and avoids manipulation of the fragile dome. The majority of published case series in elective settings with unruptured aneurysms demonstrate acceptable safety and short term outcomes. We did not encounter additional intraprocedural challenges or device related periprocedural complications. Despite its advantages the high cost of the device remains a significant drawback to widespread use.

Abstract ID – 2.5.029

Dural arteriovenous fistula of skull base with focal dilatations of a draining vein mimicking aneurysms of the posterior inferior cerebellar artery: A rare pitfall

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Learning objectives

Present the rare case of a dural AVF with draining vein dilatations mimicking skull base aneurysms.

Background

Dural arteriovenous fistulas (dAVF) are uncommon and often idiopathic in origin with others typically occuring secondary to dural sinus thrombosis or trauma. They can be challenging to diagnose with traditional cross sectional imaging. Digital subtraction angiography remains the gold standard for diagnosis of these fistulas.

Case and procedure details

A 42 year old male with severe headache was diagnosed with pre pontine subarachnoid haemorrhage on NCCT. A CT angiogram revealed two focal dilatations of a vessel in the posterior fossa giving the appearance of aneurysms arising from the right posterior inferior cerebellar artery (PICA). DSA revealed a dAVF (Cognard Type IV) with feeding arteries from ascending pharyngeal, occipital as well as right vertebral arteries with focal fusiform dilatations of an ectatic draining vein. Patient proceeded to endovascular embolization. Superselective cannulation of the external carotid artery feeding branches was done with a microcatheter. 60% n-butyl cyanoacrylate (NBCA) embolic agent was injected with successful occlusion of the feeding branches. Post procedure recovery was uneventful.

Conclusion

Early diagnosis and treatment of aggressive type dural AVF's is vital to prevent complications. Filling of an ectatic draining vein in dural AVF's can mimic an artery on CT/MR angiography if present within a relevant territory as was the case here. The presentation was further confounded by the absence of the native PICA.

Abstract ID – 2.5.030

Transverse sinus stenting in patients with idiopathic intracranial hypertension

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Transverse Sinus Stenting for Idiopathic Intracranial Hypertension - Review in 2 patients.
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Background:
IIH is a condition characterized by elevated intracranial pressure without an identifiable cause, often leading to headaches, visual disturbances. Transverse sinus stenosis has been identified as a possible contributor to the increased intracranial pressure in some IIH patients, prompting interest in role of transverse sinus stenting.

Clinical finding:
The procedure aims to restore cerebrospinal fluid (CSF) dynamics by relieving venous outflow obstruction. This assessment highlights improvements in headache frequency, visual acuity, and quality of life post-stenting. Here we have 2 patients who presented with Headache and CSF rhinorhea underwent MRI with venogram which showed typical features of IIH with empty sella, prominent optic nerve sheath and transverse sinus stenosis.
Both the patients underwent transverse sinus stenting as the there headache was very pronounced and post stenting the patients had clinical improvement in symptoms which were refractory to medications taken priorly. Complications associated with the procedure, such as stent migration or thrombosis, the need for careful patient selection. Despite these risks, clinical outcomes suggest that transverse sinus stenting holds promise as a minimally invasive option for patients with refractory IIH who meet specific criteria .

Conclusion:
While further research is needed to optimize patient selection and refine techniques, transverse sinus stenting represents a valuable addition to the therapeutic arsenal against idiopathic intracranial hypertension, offering hope for improved management of this condition.

Abstract ID – 2.5.031

Radiological and clinical outcome of endovascular treatment of intracranial aneurysms: An ambispective study

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Background

Study focuses on evaluating the angiographic features, clinical, and radiological outcomes of patients undergoing endovascular treatment for intracranial aneurysms.

Aim

Primary objective is to assess clinical and imaging outcomes of patients treated with endovascular therapy & secondary objectives include determining the occlusion rate of treated aneurysms and documenting their angiographic characteristics.

Materials and Methods

Single centre ambispective study involved 146 patients with 173 aneurysms, treated between January 2019 and December 2023. Patients and aneurysms characteristics were documented, and angiographic outcomes were assessed using MRRC scale and clinical outcomes were evaluated using mRS.

Results

Poor WFNS grades and high modified fisher grade correlated with poorer clinical outcomes with significant morbidity and mortality. Posterior circulation aneurysms, bifurcation aneurysms, and aneurysms with daughter sacs or multilobulated aneurysms demonstrated a higher propensity for rupture. Various morphologic parameters (higher size ratio, aspect ratio, height weight ratio, bottle neck ratio, maximum height, size of the aneurysm, and inflow angle) were associated with rupture in small and medium-sized aneurysms. On multivariate analysis, size ratio was the only significant predictor of rupture, with a threshold value of 2.14. Even after adequate occlusion, recanalization (12.65%) was observed in aneurysms with lower packing density on follow-up (PD cut-off 20.52%), underscoring the importance of adequate packing density.

Conclusion

This study highlights poor WFNS grades correlating with worse clinical outcomes, identifies size ratio as a key predictor of rupture, and emphasizes the importance of adequate packing density to prevent recanalization in aneurysms treated with endovascular therapy.

Abstract ID – 2.6.001

Percutaneous Trans-Hepatic Bilateral Biliary Stenting in Bismuth IV Unresectable Malignant Obstruction-A Case Report

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Background

Most patients diagnosed with hilar malignant biliary obstruction (HMBO) undergo palliative biliary drainage by an endoscopic or percutaneous approach until end of life. Palliative decompression of the biliary tree using metal or plastic stents focuses on achieving relief from obstruction-related pathology, to improve the patient's quality of life and survival.

Case

A 49-year-old gentleman presented with features of obstructive jaundice. MRCP diagnosed Bismuth Type IV HMBO associated with bilateral intra hepatic duct dilatations; and as such, endoscopic and cholangioscopic attempts for biliary drainage were unsuccessful.

Percutaneous Intervention

Initially insertion of bilateral percutaneous external biliary drainages was done. Then a metallic self-expanding non covered stent was placed across the obstruction from the left hepatic duct to common bile duct. This was followed by a second plastic stent insertion from the right hepatic duct to CBD traversing through the previous stent. Post procedure cholangiogram showed free flow of contrast via both stents into the duodenum. Patient improved clinically as well as biochemically and subsequently, patient's quality of life improved. No complications were encountered intra or post procedurally.

Conclusion

To date, data regarding percutaneous trans-hepatic bilateral stenting in Bismuth IV lesions are scarce, even though clinical decision in the management of patient is playing a vital role. Biliary drainage aims for the alleviation of symptoms and the amelioration of the patients' quality of life. Percutaneous bilateral stent-in-stent placement can be considered an effective and relatively safe option for HMBO type IV patients.

Abstract ID – 2.6.002

IT ALWAYS SEEMS IMPOSSIBLE UNTIL IT'S DONE: DIFFICULT BIOPSIES HOW WE TACKLED

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Learning Objectives
-Overview of challenging biopsy locations and strategies used.
-Modifications in patient positioning and techniques that led to successful outcomes.

Background
Image-guided percutaneous biopsies are common in interventional radiology (IR). Although many biopsy sites are accessible, technical challenges can arise due to various factors. This case series highlights successfully performed biopsies in difficult locations, detailing the approaches, patient positioning, and precautions taken to ensure success.

Clinical Findings/Procedure Details
1.A 58-year-old female with post-operative breast carcinoma and a PET-positive right middle lobe mass was biopsied under CT guidance. Precise positioning of the biopsy gun from an anterior approach enabled successful sampling.
2.Another 58-year-old female presented with multiple vertebral lytic metastatic lesions deemed too risky for biopsy due to potential spinal cord injury. A small extrapleural soft tissue lesion was targeted under CT guidance, leading to successful sampling.
3.An elderly male complained of neck pain, with MRI revealing bone marrow abnormalities in C6-C7 vertebrae. Positioned supine, the biopsy was performed using combined ultrasound and CT guidance with an anterolateral approach, utilizing saline dissection to avoid vital structures.

Conclusion
-Comprehensive pre-procedure imaging review is essential for effective planning.
-Proper imaging modality, patient positioning, and selection of biopsy tools are crucial for optimal results.

Abstract ID – 2.6.003

Collateral Vein Recanalization and Stenting for Venous Outflow Obstruction in Budd-Chiari Syndrome

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PURPOSE
This study evaluates clinical outcomes of collateral vein stenting in Budd-Chiari Syndrome (BCS) patients with severe or complete hepatic vein obstruction, precluding direct recanalization. Unlike TIPS, which bypasses the liver, collateral vein stenting restores physiological venous drainage into the inferior vena cava (IVC), offering an anatomically aligned and less invasive treatment option.

MATERIALS AND METHODS
A retrospective study was conducted on five symptomatic BCS patients unsuitable for hepatic vein recanalization due to imaging confirmed severe obstruction. Inclusion criteria included significant collateral veins and symptomatic BCS (e.g., ascites, liver dysfunction). Pre-procedural evaluation comprised LFT, coagulation profiles, and imaging. Collateral vein stenting was performed via a transhepatic approach, crossing the lesion with a guidewire snared transjugularly. Venoplasty and stenting were done using 8-mm balloon-expandable stents across the collateral vein into the IVC. Patients received anticoagulation therapy and follow-up at 1 and 3 months.

RESULTS
Technical success was achieved in all cases with restored flow. Symptomatic relief, including ascites resolution and liver function improvement, was observed within 1 month. Liver function parameters significantly improved: bilirubin (2.3 ± 0.5 to 1.2 ± 0.3 mg/dL, $p<0.01p < 0.01$), INR (1.8 ± 0.2 to 1.4 ± 0.1, $p<0.02p < 0.02$), and albumin (2.8 ± 0.4 to 3.3 ± 0.5 g/dL, $p<0.05p < 0.05$). Stents remained patent at 3 months with no major complications.

CONCLUSION
Collateral vein stenting is a safe and effective salvage therapy for BCS, with high technical success.

Abstract ID – 2.6.004

Mastering Percutaneous Gastrostomy: Innovations and Expertise for Interventional Radiologists

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Learning Objectives: Understand the indications, contraindications, and patient selection criteria for percutaneous gastrostomy. To review procedural techniques for safe and effective catheter placement. Also provide an overview of tube care post placement.

Background: Percutaneous gastrostomy is a minimally invasive procedure that has revolutionized long-term enteral feeding for patients unable to maintain adequate oral intake. Despite its widespread use, proficiency in technique, complication management, and an understanding of patient-specific considerations are essential for optimizing patient care.

Procedure Details: The exhibit will cover the step-by-step approach to percutaneous gastrostomy: Patient Selection and Pre-procedural Preparation with review of indications, such as dysphagia from neurological disorders, head and neck cancers, or esophageal obstructions ; Contraindications, and technical Aspects; Post procedure tube care

Conclusion: Percutaneous gastrostomy is a cornerstone procedure in interventional radiology, offering a minimally invasive solution for long-term enteral nutrition. By understanding the nuances of patient selection, mastering procedural techniques, and effectively managing complications, interventional radiologists can ensure optimal patient outcomes. This educational exhibit not only reinforces foundational knowledge but also introduces emerging innovations to inspire continued excellence and growth in practice.

Abstract ID – 2.6.005

Trans-IVC Stent Intervention for Management of Hepatocaval obstruction: Case reports

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Learning Objectives:
This report aims to highlight the management of Portal Hypertension due to jailed Inferior Vena Cava (IVC) stent via Trans-IVC stent approach using a TIPS needle.

Background:
Portal hypertension is a significant complication of Budd Chiari Syndrome (BCS), often leading to ascites despite medical management. Prior interventions like Inferior Vena Cava (IVC) stent placement can sometimes result in iatrogenic hepatic vein obstruction, necessitating alternative approaches.

Clinical Findings:
Two middle-aged men with BCS presented with refractory ascites. IVC venograms revealed patent IVC stents, but hepatic venograms identified distinct challenges. It revealed hepatic vein ostium jailed by previously placed IVC stent in one patient. The other patient had no opacifying hepatic veins and had jailed intrahepatic venous collaterals.
For the former, the obstruction was negotiated across the IVC stent using a TIPS needle into the right hepatic vein followed by hepatic vein stenting past the struts.
For the latter, the TIPS needle was advanced from the IVC stent directly into the portal vein with Direct intrahepatic portosystemic shunt (DIPS) creation. Both patients experienced rapid symptom relief, with restored venous outflow confirmed by imaging.

Conclusion:
Trans-IVC stent intervention using a TIPS needle effectively managed portal hypertension in BCS, leading to significant symptom relief. These cases highlight the importance of innovative, patient-specific approaches in interventional radiology to address complex vascular complications. Further studies are warranted to validate this approach in larger cohorts and explore its long-term outcomes.

Abstract ID – 2.6.006

Intranodal Innovation: Sealing the leaks in Post-Renal Transplant Lymphorrhea

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Learning Objectives:

1.To recognize the clinical presentation and complications of lymphatic leaks following renal transplantation.

2.To understand the role of intra-nodal embolization as a minimally invasive therapeutic option.

3.To evaluate the outcomes of this novel technique in comparison to traditional management approaches.

Background:

Lymphatic complications such as lymphorrhea and lymphocele are common after renal transplantation. Persistent lymphatic leaks can lead to significant morbidity, including infection and graft dysfunction. Traditional treatments like aspiration, sclerotherapy, or surgical fenestration are associated with risks like infection, bleeding, and recurrence. Intra-nodal embolization has emerged as a minimally invasive alternative for managing lymphatic leaks, with fewer complications & shorter recovery times.

Clinical Findings/Procedure Details:

We describe two cases who presented with persistent lymphorrhea (drain output 300 mL/day) post-renal transplantation. MRI revealed a T2 hyperintense collection near the transplanted kidney. Under ultrasound guidance, intra-nodal injection of 3 mL Lipiodol was performed, which revealed a leak in the external iliac lymphatic ducts in both cases, followed by embolization using N-butyl cyanoacrylate diluted in Lipiodol (20%). Immediate post-procedure imaging confirmed glue retention at the leakage site. The patient's drain output decreased significantly within 24 hours, and the drain was removed on postoperative day 4. Renal function remained stable with no recurrence at the 3-month & 6-month follow-up.

Conclusion:

Intra-nodal glue embolization offers a safe & minimally invasive treatment for lymphatic leaks post-renal transplantation. The presented case adds to the limited but growing evidence supporting this novel intervention as a first-line treatment option for post-transplant lymphatic complications.

Abstract ID – 2.6.007

FROM STRUGGLE TO STRENGTH: CRYOABLATION'S LIFE-CHANGING IMPACT ON A 14-YEAR-OLD

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This case study examines the role of percutaneous cryoablation in treating Fibro-Adipose Vascular Anomaly (FAVA) and its effectiveness in managing symptoms. FAVA is a rare vascular malformation involving fibro-fatty infiltration, dilated venous channels, pain, and contracture. These lesions are very notorious to diagnose and treat, often requiring surgical excision.

A 14-year-old male presented with progressively worsening right elbow pain (9/10) and flexion contracture, which impaired his daily activities including writing. Imaging, including ultrasound, CT, and CEMRI, revealed a heterogeneously enhancing dumbbell-shaped lesion of size 59 x 30 mm with fatty component and a phlebolith in the brachialis muscle crossing right elbow joint, which was diagnosed as FAVA.
Percutaneous cryoablation, a minimally invasive procedure, was used to treat the lesion. A 17 G needle was sequentially placed in both limbs of the dumbbell-shaped lesion with 2 cm overlap in the center, and real-time ultrasound monitoring ensured complete coverage of the lesion by the ice ball. Post-procedure, the patient experienced significant pain reduction (to 5/10 after one week and 3/10 after one month) and improvement in flexion deformity. Follow-up MRI at two months showed a 20% reduction in lesion size, and the patient regained normal functionality, including the ability to write.
Cryoablation offers a safe and effective alternative to surgical excision, which carries risks of muscle bulk loss, functional disability, and injury to nearby vessels or nerves. In sensitive anatomical areas like the elbow, percutaneous cryoablation can be considered a viable first-line treatment option for FAVA.

Abstract ID – 2.6.008

USG GUIDED PERIPHERAL PORTAL VEIN ORIENTED NON DILATED BILE DUCT PUNCTURES IN IATROGENIC BILARY LEAKS - A SCIENTIFIC STUDY

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Introduction
Biliary leaks are potentially devastating complications that can occur in various surgeries. Prompt recognition and characterization of the biliary leak are crucial to prevent complications like bile peritonitis and sepsis.

Materials and Methods
- 6 cases of iatrogenic biliary injury patients (cholecystectomy to robotic hepaticojejunostomy)
- Biliary diversion under fluoroscopic and USG guidance
- Peripheral portal vein oriented non-dilated bile duct puncture using USG guidance
- Interdisciplinary follow-up and management

Results
- 2 patients underwent hepaticojejunostomy after leak resolution
- 1 patient with internalized system on follow-up
- 1 patient with spontaneous and complete resolution
- 1 patient with external drainage, incomplete resolution, and negative outcome
- 1 patient on follow-up with complete resolution of cholangitis

Conclusion
Biliary leaks pose diagnostic and therapeutic challenges due to complexity and varied presentations. Definitive therapy depends on the type and extent of the biliary injury. Timely intervention reduces mortality and morbidity. Interventional radiologists play a crucial role in diagnosis and management.

Abstract ID – 2.6.009

EMERGENT PERCUTANEOUS MANAGEMENT OF RUPTURED HYDATID HYDROPNEUMOTHORAX IN A CHILD WITH RESPIRATORY DISTRESS

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Background
8-year-old boy presented to ED with labored breathing, decreased oxygen saturation, and emaciation
No significant previous history noted

Clinical Findings/Procedure Details
Chest radiograph: hydropneumothorax with undulating membranous opacities, mediastinal shift
NCCT thorax: confirmed radiographic findings
Emergent aspiration of hydropneumothorax via pigtail catheter with underwater seal
Improvement in oxygen saturation, lung re-expansion, and decreased mediastinal shift

Results
- Follow-up imaging: improved lung expansion
- Patient maintained saturation in room air
- Subsequent surgery: hydatid cyst removed
- Successful discharge

Conclusion
- Highlights IR role in emergent non-vascular scenarios
- Immediate pigtail placement and drainage improved patient outcome
- Demonstrates clinical judgment role of Interventional Radiologist in life-saving scenarios
- Advances in minimal invasive, image-guided procedures will further establish IR role in clinical management

Abstract ID – 2.6.010

Percutaneous Transhepatic Self-Expanding Metallic Stenting - Mainstay in the Palliation Of Irresectable Malignant Biliary Obstructions: Our Experience

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1. Background

•Pancreatic, gallbladder, and bile duct cancers are common causes of malignant biliary obstruction. Surgery remains the only curative treatment, though most cases are irresectable. Non-surgical palliation options include endoscopic or transhepatic stenting with self-expandable metallic stents (SEMS) as preferred for permanent stenting.

2. Aims and Objectives

•Study techniques, efficacy, and outcomes of SEMS placement for palliative care in irresectable malignant biliary obstruction cases.

3. Materials and Methods

•Prospective study from Nov 2022 to Sep 2024 in Department of Interventional Radiology , NIMS and Research Institute ,Jaipur .

•Inclusion of patients with percutaneous SEMS placement for palliative treatment. Data includes demographics, diagnosis, obstruction level, procedure types, efficacy, and post-procedure complications.

4. Technique of Transhepatic Biliary Stent Placement

•Stent placement via either right- or left-sided ducts, using imaging for guidance. SEMS deployed post navigation through stenosis. Procedure success confirmed via contrast flow into the duodenum.

5. Results

•36 patients (mean age 56 years) with common diagnoses of cholangiocarcinoma and gallbladder carcinoma. Biliary obstruction Type II or more advanced in most cases.

•Technical success with relief in obstruction noted in all patients.

6. Conclusion

• SEMS insertion is a safe, effective palliative method, with good patency rates, better symptom-free survival, and improved quality of life for patients with advanced malignant biliary obstruction.

Abstract ID – 2.6.011

Invasive Aspergillosis Diagnosed Through Trucut Image-Guided Biopsy of a Lung Nodule: A Rare Case Presentation

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Introduction:Invasive pulmonary aspergillosis (IPA) is a serious fungal infection commonly seen in immunocompromised patients but can occasionally occur in individuals with chronic lung conditions. Diagnosis is typically achieved through bronchoscopy or sputum analysis. However, in certain cases, image-guided biopsy becomes crucial for accurate diagnosis. This report presents a rare case of IPA diagnosed through a trucut image-guided biopsy of a solitary lung nodule, emphasizing the importance of considering fungal infections in atypical presentations.

Case Presentation: A 65-year-old male with a history of chronic obstructive pulmonary disease (COPD) presented with persistent cough, hemoptysis, and unexplained weight loss. A chest CT scan revealed a 2.5 cm solitary lung nodule in the right upper lobe, initially raising suspicion for malignancy. Given the clinical context, a CT-guided trucut biopsy was performed. Histopathological examination showed septate hyphae consistent with Aspergillus species.

Discussion: This case highlights the diagnostic value of image-guided biopsy in identifying infectious causes of lung nodules that mimic malignancy. While IPA typically affects immunocompromised individuals, it can also develop in patients with chronic lung diseases like COPD. Conclusion:Invasive pulmonary aspergillosis can present as a solitary lung nodule, potentially mimicking malignancy. Trucut image-guided biopsy serves as a safe and effective diagnostic tool in such atypical cases, allowing for early and targeted therapy. Clinicians should consider fungal infections in the differential diagnosis of lung nodules, especially in patients with underlying lung conditions.

Abstract ID – 2.6.012

Expanding horizons: Non vascular interventional radiology

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LEARNING OBJECTIVES
1.Understand scope and applications of non-vascular interventions in radiology.
2.Recognize benefits of minimally invasive, image-guided procedures for small lesions.
3.Explore advancements and techniques that enhance the efficacy and safety of non-vascular radiological interventions.

BACKGROUND
CT-guided non-vascular interventions are an integral part of interventional radiology, allowing precise access to deep-seated or anatomically challenging lesions for tissue sampling. These minimally invasive procedures are particularly beneficial for obtaining diagnostic material from patients with suspected malignancies, inflammatory conditions, or infections where alternative methods are impractical or higher risk.

AIM
We aim at presenting a concise, helpful and practical imaging approach of Non-vascular interventional radiology (NVIR) procedures guided by CT with our department cases as examples.

PROCEDURE DETAILS
In our department, patients are selected for image-guided sampling after careful evaluation of baseline imaging, such as CT scans and ultrasounds.
On the scheduled day, procedure is performed under strict aseptic conditions. The patient is optimally positioned to achieve the shortest and safest needle path, avoiding vital structures. Sampling is carried out using an appropriate needle and biopsy gun, utilizing the coaxial technique to enhance precision and minimize tissue trauma. The obtained samples are sent for pathological examination after prior consultation with the pathologist to ensure adequate sampling and appropriate handling

CONCLUSION
Non-vascular interventions in radiology play a vital role in modern patient care, offering minimally invasive, image guided solutions for a wide range of conditions. These procedures enhance diagnostic precision, reduce recovery times, and improve overall patient outcomes.

Abstract ID – 2.6.013

Glue Saves the Day: Innovative Percutaneous Glue Embolization for Post-Lung Biopsy Pulmonary Artery Pseudoaneurysm

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Glue Saves the Day: Innovative Percutaneous Glue Embolization for Post-Lung Biopsy Pulmonary Artery Pseudoaneurysm

CT-guided lung biopsy is a common procedure performed not just for diagnosis but also for histological typing. Hemothorax is a rare yet serious complication of this, with a reported incidence of 0.092%. This is most commonly due to the injury to the intercostal artery or internal mammary artery. However, bleeding due to pulmonary artery involvement is rare; we report a case of a 67-year-old man with COPD and CKD who underwent a lung biopsy for a spiculated right upper lobe mass. Acute worsening of dyspnoea and pain warranted imaging, which showed a peripheral pulmonary artery pseudoaneurysm(PAA) that was embolised with a Glue-lipiodol mixture using CT and USG guidance. Complete thrombosis of the PAA was confirmed with CECT chest immediately post procedure. The patient was discharged after two days with no dyspnoea or pain. This case underscores the safety and efficacy of percutaneous glue embolisation as a relatively cost-effective method for managing PAA and the importance of rapid recognition and intervention in such rare complications.

Abstract ID – 2.6.014

Unveiling Success: Our Single-Center Experience With Percutaneous Radiofrequency Ablation For Osteoid Osteoma

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Objective: To report a single centers experience evaluating the efficacy and safety of computed tomography-guided radiofrequency ablation for the treatment of osteoid osteoma Materials and methods: The study included 32 patients who were treated during 2021-2024 by CT-guided RFA. The location of the lesion, nidus size, area involved, the pain score were recorded. The procedure, technical success, complications and the need for repeat procedure were documented.

Results: A total of 32 patients, 28 men, and 4 women, were included in the study, The patients' mean age was 13+/- 4 years, and the mean nidus diameter was 6.2±7.1mm. There were 23 cortical niduses, 4 intramedullary niduses, and 5 corticomedullary niduses. The lesions were in the femur (n=21), tibia (n=8), scapula (n=1), Talus (n = 1)and vertebrae (n=1). No recurrence has been observed so far. In our study, none of our patient experienced recurrence of the pain, nor complications. Conclusion: RFA is a proven treatment option in the treatment of osteoid osteoma. The recurrence and failure rates are almost nil according to our study. Unlike surgery, the procedure and recovery is quick and can return to daily life faster. This study emphasises that the CT-guided radiofrequency ablation is a safe and effective technique for osteoid osteoma treatment.

Abstract ID – 2.6.015

Outcome of Self-Expandable Metallic Stents after Endobiliary Radiofrequency Ablation in Malignant Biliary Strictures

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Learning Objectives:
Endobiliary RFA has the potential for delaying tumor development and maintaining the patency of SEMS for a longer period of time. RFA is a proven safe and efficient treatment option for reducing tumor burden and relieving biliary blockage.

Background:
In patients with unresectable malignant biliary obstruction, obstructive jaundice significantly affects quality of life and contributes to high morbidity and mortality. Palliative treatment options include surgical bypass, percutaneous external drainage, endoscopic drainage, and biliary stenting. However, managing obstructions in cases like hilar cholangiocarcinoma or gallbladder carcinoma is more complex due to involvement of both hepatic ducts and the non-patent primary confluence, requiring decompression of each hepatic lobe separately.

Percutaneous transhepatic biliary drainage (PTBD) with self-expandable metal stents (SEMS) is an effective treatment but has a limited patency of about 3 months due to tumor ingrowth, epithelial hyperplasia, and biliary sludge. Recent studies suggest that endobiliary radiofrequency ablation (RFA) can reduce tumor burden, slow tumor growth, and prolong SEMS patency, thereby delaying re-intervention, extending stent function, and improving survival outcomes.

Procedure Details:
After PTBD, cholangiogram is done to localize the stenosis. Habib TM Endo HPB catheter is then passed across the stenotic segment over a stiff guide wire followed by performing RFA for 2 mins at 10W. Subsequently SEMS is placed.

Conclusion:
Radiofrequency ablation of tumour has been proven to be beneficial in maintaining long term patency of the stent with reduced re intervention rates, hospital stay and overall improve in standard of living.

Abstract ID – 2.6.016

Outcome of Self-Expandable Metallic Stents after Endobiliary Radiofrequency Ablation in Malignant Biliary Strictures

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Learning Objectives:
Endobiliary RFA has the potential for delaying tumor development and maintaining the patency of SEMS for a longer period of time. RFA is a proven safe and efficient treatment option for reducing tumor burden and relieving biliary blockage.

Background:
In patients with unresectable malignant biliary obstruction, obstructive jaundice significantly affects quality of life and contributes to high morbidity and mortality. Palliative treatment options include surgical bypass, percutaneous external drainage, endoscopic drainage, and biliary stenting. However, managing obstructions in cases like hilar cholangiocarcinoma or gallbladder carcinoma is more complex due to involvement of both hepatic ducts and the non-patent primary confluence, requiring decompression of each hepatic lobe separately.

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Procedure Details:
After PTBD, cholangiogram is done to localize the stenosis. Habib TM Endo HPB catheter is then passed across the stenotic segment over a stiff guide wire followed by performing RFA for 2 mins at 10W. Subsequently SEMS is placed.

Conclusion:
Radiofrequency ablation of tumour has been proven to be beneficial in maintaining long term patency of the stent with reduced re intervention rates, hospital stay and overall improvement in standard of living.

Abstract ID – 2.6.017

Efficacy of Autologous Blood Tract Embolization in Preventing Post-Liver Biopsy Hemorrhage: A Single-Center Study in 60 Patients

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Introduction: Percutaneous liver biopsy is a key diagnostic tool in hepatology but carries a risk of post-procedural hemorrhage. Autologous blood embolization is a simple technique that may reduce this risk by sealing the biopsy tract immediately after the procedure. This study evaluates the efficacy and safety of autologous blood embolization in preventing post-biopsy hemorrhagic complications.

Methods: Sixty patients undergoing percutaneous liver biopsy were included in this prospective study. At the start of the procedure, 3–5 mL of autologous blood was aspirated from each patient. Following liver tissue sampling, the aspirated blood was injected into the biopsy tract under ultrasound guidance to achieve embolization. Patients were monitored post-procedure for bleeding or other complications using clinical evaluation, vital signs, and ultrasound imaging.

Results: No cases of post-biopsy bleeding were observed. All patients tolerated the procedure without adverse events related to the embolization. The use of autologous blood ensured effective hemostasis, eliminating the need for additional interventions, such as foreign material embolization.

Conclusion: Autologous blood embolization is a safe, effective, and cost-efficient technique to prevent hemorrhagic complications after liver biopsy. It avoids the risks of immune reactions and complications associated with foreign embolic agents. These findings support its clinical utility, and further multicenter studies are recommended to validate its efficacy and promote broader adoption of this technique.

Abstract ID – 2.6.018

Autologous Clot Tract Embolization to Prevent Pneumothorax in Patients with Emphysema Undergoing Lung Biopsy: A Feasibility Study

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Introduction: Percutaneous lung biopsy in patients with emphysema carries a high risk of pneumothorax due to fragile lung tissue. This study evaluates the efficacy of autologous clot tract embolization in mitigating pneumothorax in this high-risk population.

Methods: Ten patients with emphysema undergoing percutaneous lung biopsy were included. Before the procedure, 3–5 mL of autologous blood was aspirated and allowed to clot. After biopsy, the clotted blood was injected into the biopsy tract during needle withdrawal to seal the tract and prevent air leakage. Serial chest radiographs and clinical monitoring assessed for pneumothorax and its severity.

Results: Pneumothorax occurred in 6 patients (60%), but only 1 patient (10%) required invasive intervention with pigtail catheter insertion for symptomatic pneumothorax. The remaining 5 cases were mild and resolved with conservative management. No complications related to autologous clot embolization were observed.

Conclusion: Autologous clot tract embolization is a simple, safe, and effective method to reduce the severity of pneumothorax in patients with emphysema undergoing lung biopsy. While pneumothorax remained frequent (60%), the need for invasive management was significantly reduced (10%). This technique holds promise for improving outcomes in high-risk populations and warrants further validation in larger studies.

Abstract ID – 2.6.019

Diagnostic accuracy of percutaneous image guided biopsy of Paediatric abdominal masses

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Purpose:
An image-guided percutaneous abdominal mass biopsy is a common procedure for diagnosing pediatric solid and hematological malignancies. To determine the diagnostic accuracy and study the multiple factors that improve diagnostic accuracy.

Material and methods:
We conducted a retrospective analysis of the pediatric abdominal mass biopsy from 2014 to 2021 with 168 biopsies. Using uni- and multivariate analysis, the association of demographic and technical features was evaluated with diagnostic yield and accuracy. 87 patients underwent surgery. Post-biopsy HPR was compared to post-surgical HPR if operated or followed up for 1 year to assess the stability of the lesion. Complications and their management were noted.

Results:
Out of 168 biopsies performed, 152 biopsies were true positive, 2 biopsies were true negative and 14 cases were false negative. The sensitivity was 91.56%, specificity was 100%, PPV was 100% and NPV was 12.50%. The accuracy of the biopsy was 91.66%, the diagnostic yield was 90.47% and the diagnostic efficacy was 91.95%. 5 cases (2.97%) developed severe post-biopsy hemoperitoneum. FDG avidity, mean number of cores, and technically targeted biopsies were associated with biopsy success. Also, the use of advanced techniques like IHC was associated with increased diagnostic accuracy.

Conclusion:
Image-guided percutaneous abdominal mass biopsy was highly accurate and safe in the diagnosis of the paediatric abdominal mass. FDG avidity, increase in mean number of cores, technically targeted biopsies, and use of advanced techniques like IHC improve the diagnostic yield of biopsy.

Abstract ID – 2.6.020

Percutaneous CT guided Trans-sternal biopsy for lung parenchymal and mediastinal masses: A preliminary experience from a tertiary care centre

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Purpose

Management of lung parenchymal and mediastinal masses requires precise histopathological diagnosis. Lesions in the anterior mediastinum or near the sternum pose challenges for traditional biopsy methods due to proximity to vital structures. This study evaluates the safety, feasibility, technical challenges, and diagnostic yield of percutaneous CT-guided transsternal biopsy for such lesions.

Materials and Methods

Eleven patients (7 male, 4 female; mean age 56 ± 8 years) with parenchymal or mediastinal masses inaccessible through conventional trans-thoracic approaches underwent CT-guided transsternal biopsy using a Siemens Somatom 128-slice scanner under local anesthesia. A coaxial needle technique with an 18G semi-automatic biopsy gun was used. In masses encasing mediastinal vessels (81.9%), contrast-enhanced CT imaging guided needle path planning. Three cores (2 cm each) were obtained for histopathology. Data collected included lesion size, needle path, biopsy results, procedural time, radiation dose, and complications.

Results

Technical success was achieved in all cases (100%), with an average procedural time of 32 ± 8 minutes. Histopathology identified malignancy in 91% and infection in 9%. No complications were reported, and post-procedure pain was minimal. Radiation exposure averaged 4.8 ± 0.8 mSv.

Conclusion

Percutaneous CT-guided transsternal biopsy is a safe and effective alternative for anterior mediastinal and parenchymal masses near the mediastinum. Larger studies are needed to confirm these findings and refine protocols.

Abstract ID – 2.7.001

Transjugular intrahepatic portosystemic shunt for the management of chylous ascites in cirrhosis – a case series

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Purpose: Excessive hepatic and gastrointestinal lymph flow can lead to chylous ascites in patients with decompensated liver cirrhosis. We report our experience with Transjugular Intrahepatic Portosystemic Shunt (TIPS) in cirrhotic patients with chylous ascites.

Materials and Methods: Data of cirrhosis patients undergoing TIPS placement for chylous ascites from September 2017 to January 2024 was retrieved. Outcomes were analysed with the primary outcome measure being resolution of ascites. Secondary outcomes including incidence of hepatic encephalopathy (HE), sepsis, worsening of liver functions and transplant free survival were also analysed.

Results: Eight patients underwent TIPS for chylous ascites during the study period. Predominant etiology for cirrhosis was metabolic dysfunction associated steatotic liver disease (n = 5, 62.5%). Median available follow up of the patients was 18 months. Near-complete resolution of ascites was noted in all patients at 2-months except one who had coexisting renal dysfunction. Two patients passed away 3 and 5 months after TIPS secondary to sepsis and multi-organ failure, respectively. Incidence of HE during the 3 months follow-up period after TIPS was 25% (2/8). No patient had significant worsening of liver functions during the immediate post-operative period. One patient underwent transplant 9 months after TIPS. Median transplant free survival for rest of the patients was 14 months.

Conclusion: TIPS is effective in management of chylous ascites due to cirrhosis that is refractory to medical management. Compared to historical controls, the rates of resolution of ascites, hepatic encephalopathy, sepsis, worsening of liver functions and transplant-free survival are comparable.

Abstract ID – 2.7.002

Angio-seal assisted closure of arterial access site pseudoaneurysm - a promising approach

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Learning-objectives: To review the technique, feasibility, success, and safety of transaneurysmal occlusion of complicated post-interventional common femoral artery (CFA) pseudoaneurysm (PSA) using the Angio-Seal Closure Device (ASCD)
Background: Access site PSA is not an uncommon complication following catheter angiography, with an incidence up to 8%. Various treatments exist, including thrombin injection and stent-graft implantation, but they can be complicated by conditions like chronic liver disease (CLD), which impairs coagulation and makes treatment more challenging. The Angio-Seal device has emerged as a promising, safe, and effective option for complicated post-catheterization PSAs, though few studies have explored its use.
Procedure details: This procedure is primarily ultrasound-guided and can be performed in the angiography suite or at the bedside. Following the failure of compression therapy, a 21G needle is used to puncture the PSA neck under local anesthesia. A micro-guidewire is advanced into the CFA, and a 5F introducer sheath followed by a guidewire is placed. The Angio-Seal locator is inserted, and positioning is confirmed when an arterial spurt is observed. The system is retracted till the spurting is reduced to trickling (locator tip in aneurysm) and then re-advanced by 1-2cm back into the artery. The Angio-Seal device is then inserted to deploy the anchor and collagen plug, sealing the PSA neck. The exclusion of the PSA is then confirmed on USG.
Conclusion: Angio-seal closure is an effective and safe option for treating post-intervention access site PSAs, particularly in patients with coagulopathies. Its high success rate makes it a valuable potential first-line therapy.

Abstract ID – 2.7.004

Stent-assisted coiling of hepatic artery pseudoaneurysm in a transplanted liver

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Clinical History: A 45-year-old male with NASH-related CLD underwent living donor liver transplantation (LDLT) with a duct-to-duct biliary anastomosis. One year post-transplant, he developed an anastomotic biliary stricture, treated by hepaticojejunostomy (HJ). A week later, he presented with per rectal bleeding and melena, associated with a hemoglobin drop from 12g/dL to 8g/dL. CT showed a large wide-neck pseudoaneurysm (PSA) in the anterior branch of the right hepatic artery.

Treatment: The right anterior branch of the RHA was cannulated and a delivery device of a balloon-mounted stent was placed to cover the PSA neck. The PSA sac was cannulated with a microcatheter alongside the device. Detachable micro-coils were deployed into the aneurysmal sac, with the stent expanded before detaching the final coil to ensure proper coil entrapment and prevent herniation. Post-procedure, the patient's melena ceased, and hemoglobin stabilized. Follow-up imaging at three and nine months confirmed no recurrence of the PSA.

Discussion: Endovascular intervention was chosen to preserve the parent artery while excluding the PSA to prevent ischemic complications in the transplanted liver. Stent-assisted coiling was preferred due to the wide neck of the PSA and the tortuous course of the parent artery, minimizing the risk of coil prolapse. The small caliber of the parent artery allowed coil deployment before stent expansion, ensuring no prolapse and protecting hepatic blood flow.

Take Home Points:
- Preservation of the arterial supply is critical in post-transplant settings.
- Stent-assisted coiling is preferred to prevent coil prolapse and maintain arterial patency.

Abstract ID – 2.7.005

Amplatzer Vascular Plug IV For Occlusion of Pulmonary Arteriovenous Malformation in An Asymptomatic Patient-A Case Report

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Background
Pulmonary arteriovenous malformations (PAVMs) are rare vascular anomalies, in which abnormally dilated tortuous vessels contribute a pulmonary artery-to-pulmonary vein shunt. Many pulmonary AVMs are asymptomatic, but cyanosis and paradoxical emboli may occur due to shunting. Treatment options include endovascular embolization or surgery.

Case A
previously healthy 37-year-old mother underwent health examination and found to have right lower zone solitary pulmonary nodule in chest X-Ray. This was confirmed as solitary pulmonary AVM in the right lower lobe of lung on Contrast enhanced Computer Tomography. She was asymptomatic.

Endovascular Intervention
Diagnostic digital subtraction pulmonary angiography confirmed solitary pulmonary AVM in the lower lobe of right lung, measuring 3 x 3.2 cm in size. Feeding artery via a single branch of right lower lobe pulmonary artery and draining via right inferior pulmonary vein into the heart. The feeding artery was embolized with a vascular plug. (Size – 13.5 mm x 8 mm AMPLATZERTM Vascular Plug IV). PVA Particles or Glue embolization was not selected due to risk of distal embolism via the high flow shunt. Post procedure angiogram confirmed complete embolization. Follow up CT showed complete elimination of AVM from the vascular system.

Conclusion
Endovascular embolization procedures in PAVMs can be utilized preoperatively or as standalone therapy, which is also safe and effective treatment in preventing complication of systemic emboli in asymptomatic patients. Newer generation AVP-IV allows safe delivery without the risk of embolism.

Abstract ID – 2.7.006

Prostatic Artery Embolization for the Treatment of Benign Prostatic Hyperplasia: A Retrospective Single-Center Study

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Purpose
Lower urinary tract symptoms (LUTS) from benign prostatic hyperplasia (BPH) affect up to 90% of men over 70. Treatment options range from lifestyle changes to surgery or prostate artery embolization (PAE). This study evaluates PAE's effectiveness and short-term outcomes in Indian patients with BPH.

Materials and methods
This retrospective study analysed 25 BPH patients in a single canter who underwent PAE from January 2019 to June 2023. Symptoms were evaluated using the International Prostate Symptom Score (IPSS), Quality of Life (QoL) questionnaire, prostate and postvoid residual (PVR) volumes pre and post-embolization. PAE was performed under local anesthesia, with angiography guiding 1.9F microcatheter placement and embolization using 150-250 μm PVA particles, aiming reduced flow or near stasis. Prostate volume, PVR, IPSS, and QoL scores had been assessed at a follow-up three months later.

Results
Twenty-five males, with an average age of 76.56 years, underwent PAE. Bilateral embolization in 23 patients and unilateral in 2 patients. Following three months, the average maximum improvement was as defined: IPSS, 10.44 ± 2.91; QoL score, 1.80 ± 0.81; prostatic volume decrease, 49.40 ± 24.13 cc (43% ± 13.95); and PVR volume, 70.08 ± 39.85 mL (52% ±14.14) ($p < 0.001$ for all) as evaluated by the paired t-test.

Conclusion
PAE is a secure and productive intervention yielding favourable short-term outcomes for lower urinary tract symptoms in BPH.

Abstract ID – 2.7.007

Direct Percutaneous Image-Guided Embolization: An Effective Pseudoaneurysm Treatment?

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Purpose: The objective of this study is to present our experience with percutaneous embolization of pseudoaneurysms using a variety of embolic agents and adjunct techniques, demonstrating its safety and efficacy.

Materials and Methods: Between January 2022 and March 2024, we treated 14 patients with pseudoaneurysms located in various anatomical regions using a direct percutaneous approach under ultrasound or CT guidance. The choice of embolic agents - glue, human recombinant thrombin, and coils - was determined by the image characteristics and location of the pseudoaneurysm. Following the procedure, all patients underwent imaging to evaluate the success of the procedure and to ascertain if further management was required. Technical success was defined as complete obliteration of the pseudoaneurysm both during the procedure and in post-procedure imaging.

Results: The pseudoaneurysms varied in size from 1 cm to 6 cm. All were accessed percutaneously using a 22G Chiba needle, with ultrasound guidance used in 10 patients and CT guidance in 4 patients. The cases included 4 splenic artery PSAs, 3 Gastroduodenal Artery PSAs, 3 peripheral pulmonary artery PSAs, 2 renal PSAs, 1 iatrogenic abdominal wall PSA, and 1 AVF PSA. Thrombin was used as an embolic agent in 8 patients, glue in 4 patients, and coils in 2 patients. Balloon-assisted thrombin/glue injection was performed in 1 patient. Technical success was achieved in 13 patients. No non-target embolization was encountered in any of our patients.

Conclusion: Direct percutaneous embolization under image guidance is a straightforward and effective method for treating pseudoaneurysms in carefully selected patients.

Abstract ID – 2.7.008

Expect the unexpected: An interesting case of hematuria post renal biopsy

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Learning objectives: Major bleeding after renal biopsy is seen in around 3% of cases.This case highlights the need to look for accessory renal arteries in patients presenting with bleeding complications

Background: A 47-year-old female presented with rapid progressive glomerulonephritis, underwent left renal biopsy. Post biopsy she developed gross hematuria. She was taken up for angiography and embolization in view of significant hemoglobin drop and hemodynamic instability.

Procedure details: 6 Fr right femoral access was taken.Her opening blood pressure was 64/40 mmHg. She was started on Noradrenaline infusion and PRBC transfusion was started. A non-selective Left renal artery angiogram was done with 6Fr renal double curve guiding catheter. No evidence of contrast extravasation from left renal artery. However, there was an accessory left artery supplying the lower pole of the left kidney, arising well below the left renal artery, which revealed free-flowing contrast extravasation. The accessory renal artery was selectively engaged. The accessory renal artery arose from the anterior aspect of the aorta in contrast to the origin from the lateral aspect in the case of renal arteries. Accessory renal artery was selectively cannulated with Progreat microcatheter. Two 3x3.3 mm 0.018” coils (Boston Scientific VortX Diamond). Post procedure, there was no extravasation.

Conclusion: In patients presenting with macroscopic hematuria, if contrast extravasation is not seen in renal arteries, always search for an accessory renal artery. The accessory renal artery might arise from the anterior aspect of the aorta, which might require catheter manipulation

Abstract ID – 2.7.009

Distal radial artery access for radio cephalic arterio-venous dialysis fistula intervention

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Learning objectives: Stenosis of the anastomotic site of the AV fistula is the most common cause of non-functional AV fistula. In this case an innovative approach of distal radial artery access at the anatomic snuff box was used to treat anastomotic site stenosis.

Background: A 43-year-old male with a known case of Stage V CKD on maintenance hemodialysis underwent radio cephalic AV fistula creation 3 months back.. Hence was referred from nephrology OPD for a fistulogram and intervention if required.

Procedure details: Since the stenosis was at the anastomosis site, we considered taking distal radial artery access at the anatomic snuff box. Radial artery puncture was taken by seldinger technique. Over the 0.021" hydrophilic guidewire, a 4Fr 7 cm long sheath was inserted. Since the distal end of the sheath is close to the anastomotic site, a guide catheter was not required. Sion Black guidewire was advanced directly through the sheath. Initially, the anastomotic site was dilated with a 2.5 x 12 mm non-compliant balloon. Subsequently was dilated with 3.5 x 15mm NC at 14 atm. Post-dilatation angiographically, there was no residual stenosis at the anastomotic site. On palpation also there was a significant improvement in the thrill.

Conclusion: Although various vascular access has been used for fistula interventions, distal radial access at the anatomic snuffbox provides an easier and safer alternative. Further distal radial access obliviates the need for a guiding catheter, which can reduce the cost of intervention.

Abstract ID – 2.7.010

A case of IVC stenting for chronic Budd Chiari syndrome

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Learning objectives: This case is about a middle-aged female who presented with symptomatic IVC stenosis.

Background: A 49-year-old female presented with complaints of abdominal distension and bilateral pitting pedal oedema for 3 years. CT scan revealed significant narrowing of intra-hepatic IVC and occlusion of hepatic veins.

Procedure details: A 7 Fr right femoral vein access was taken, and an IVC angiogram was done with a 6 Fr pigtail catheter. An angiogram revealed significant stenosis of intra-hepatic IVC. The mean right atrial pressure was 6 mmHg, whereas the mean IVC pressure was 20 mmHg. Venous access was upgraded to 10 Fr sheath. The IVC lesion was initially dilated with a 12x 40 mm balloon followed by a 16x40 mm balloon at 3 atm. Following balloon dilatation gradient persisted. Due to financial constraints, it was decided to review after a month and then decide regarding stenting. At 1 month follow up, symptoms still persisted. Hence, planned for IVC stenting. 10Fr Right femoral venous access was taken. A guidewire was placed beneath the patient to mark the IVC-RA junction to make sure the stent was placed below the IVC-RA junction. Sinus XL self-expanding stent 18 mmx 80 mm was deployed following which the gradient was abolished. On follow-up, her congestive symptoms improved.

Conclusion: For patients presenting with IVC stenosis, a staged approach with balloon dilatation initially followed by stenting is reasonable. The pressure gradient across the stenotic segment will help in the physiological assessment of procedural success

Abstract ID – 2.7.011

Iatrogenic Vascular Injury - Interventional radiology to the rescue!

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Purpose:
To define the role of Interventional Radiology management in the treatment of Iatrogenic Vascular Injury (IVI).

Materials and Methods:
This study was conducted on a sample of 15 patients who presented with iatrogenic vascular injuries in a tertiary care centre. The data were collected retrospectively from January 2022 to December 2024. The patients were assessed with a pre-procedure CT angio and were taken up for procedure and diagnostic angio done to confirm the findings. The primary treatment modalities included endovascular embolization with glue, coil, gelfoam or PVA. Some superficial injuries were treated with percutaneous thrombin injection. Post procedure angiographic success, complication and patient follow up were analysed.

Results:
Of the 15 cases, 12 (80%) had pseudoaneurysm (PSA) and 3 (20%) had active leak. The most common preceding procedure was Whipple's (20%) followed by renal biopsy (13%). Endovascular embolization was done in most (87%) of the cases while percutaneous thrombin injection was done in 2 patients (13%). The embolization materials used and the number of cases are as follows: Glue + lipiodal mixture (6 – 40%), coil (3 – 20%), thrombin (2 – 13%), gelfoam (1 – 6.7%), PVA (1 - 6.7%), coil + glue (1 – 6.7%) and coil + gelfoam (1 – 6.7%). Among the 15 patients, 14 had successful embolization with no residual leak or pseudoaneurysm. One case was unsuccessful and proceeded for surgical repair.

Conclusion:
The high success rate and almost nil complication profile observed in this study highlights the growing importance of IR in the treatment of iatrogenic vascular injuries.

Abstract ID – 2.7.012

Vascular plug as adjunct in the treatment of giant serpentine splenic artery aneurysm

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Learning Objectives:
To highlight the multidisciplinary approach to Non-cirrhotic portal hypertension (NCPH) with giant splenic artery aneurysm, focusing on preoperative embolization and the challenges in achieving complete occlusion using various techniques.

Background:
Splenic artery aneurysms are the most common visceral artery aneurysms and the third most common abdominal aneurysm, with associations including pregnancy, arteriovenous fistulas, malformations, and portal hypertension.

Clinical Summary:
A 38-year-old female with recurrent hematemesis was diagnosed with NCPH and hypersplenism. CT showed massive splenomegaly and aneurysmally dilated splenic artery. DSA with embolization were planned to minimize intraoperative bleeding risk.
In the first procedure, DSA revealed a giant splenic artery aneurysm (8.7 x 4.6cm), and embolization with two 018 helical coils (10mm × 14mm) was attempted, but persistent flow and coil migration were noted. Fifteen days later, two larger Interlock 2D coils (14 cm × 30 cm and 12 cm × 20 cm) were used, but flow continued, prompting deployment of an Amplatzer Vascular Plug II. Post-procedure CT showed partial thrombosis and distal arterial filling. A follow-up CT after 10 days showed partial aneurysm filling and a splenic infarct. The patient underwent surgery, was discharged after a week, and at 3 months, blood counts improved.

Conclusion:
This case report presents the use of an endovascular vascular plug to treat a giant splenic artery aneurysm (SAA), a rarely documented technique, which can be considered for endovascular exclusion of SAA in patients at risk of coil migration.

Abstract ID – 2.7.013

ENDING THE ACHE: OVARIAN VEIN EMBOLISATION FOR PELVIC CONGESTION SYNDROME

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Learning Objectives:
-Recognize symptoms of pelvic congestion syndrome (PCS)
-Identify fluoroscopic findings and diagnostic imaging criteria for PCS
-Illustrate embolisation techniques and materials used
-Understand post-procedure management, follow-up, and outcomes

Background:
Pelvic congestion syndrome (PCS) is an underdiagnosed cause of chronic pelvic pain, often presenting as non-cyclical pain lasting over six months, potentially accompanied by post-coital ache and varicosities. Initial imaging is used to rule out conditions like fibroids and adenomyosis. Transcatheter embolization of ovarian/internal iliac veins, often combined with medical therapy, has shown effective symptom relief with low complication rates. Techniques involve the use of coils, plugs, or sclerosants, yielding significant reductions in pain, dyspareunia, dysmenorrhea, and reliance on analgesics.

Clinical Findings/Procedure Details:
In our department, PCS cases were assessed using clinical history, imaging, and Beards criteria (≥5 for embolisation). Venography with and without Valsalva maneuver graded reflux and ruled out syndromes like May-Thurner or Nutcracker. Access was obtained via IJV and/or CFV. Cannulation of the refluxing ovarian vein was performed, deploying a vascular plug proximally and placing coils along the vein. Residual pelvic varicosities were treated with a sclerosant mixture (Air + Setrol + Lipidol, 3:2:1).

Conclusion:
Accurate assessment, imaging, and embolisation of ovarian veins provide a safe, effective treatment for PCS, improving symptoms and quality of life with minimal complications. Regular follow-up ensures sustained outcomes.

Abstract ID – 2.7.014

Unveiling the Vascular Mysteries: Transarterial Coil Embolization of Extrahepatic Arterioportal Fistula with Venous Ectasia and Aneurysmal Dilation in Chronic Pancreatitis

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Learning Objective
To understand the clinical significance of arterioportal fistulas (APFs) as a potential cause of non-cirrhotic portal hypertension and explore safe, effective treatment options.

Background
APFs are abnormal connections between splanchnic arteries and portal vein, which can lead to portal hypertension. They are either congenital or acquired and can be intrahepatic or extrahepatic. Treatment depends on fistula location, size, and flow characteristics. Small peripheral intrahepatic APFs may thrombose spontaneously while larger central APFs require treatment.

Clinical Findings and Procedure details
A 40-year-old female with chronic pancreatitis presented with abdominal pain and distension for 10 days. There was no history of hematemesis or melena.
CT angiography showed pseudoaneurysm from the gastroduodenal artery (GDA) with early opacification of superior mesenteric, splenic, and portal veins, indicating arteriovenous shunting.
DSA demonstrated a moderate-flow arterioportal fistula from GDA to proximal portal vein with venous ectasia and aneurysmal dilation (3.4 x 3.0 x 2.6 cm), with early opacification of the portomesenteric venous axis. The venous sac filled through the inferior pancreaticoduodenal arcade (IPDA) on SMA injection. GDA was superselectively catheterized and four pushable coils were deployed into it. IPDA was similarly catheterized, and two additional coils were deployed with near-complete obliteration of the fistula. Post-embolization CT confirmed aneurysmal sac thrombosis and reduction in venous dilation.

Conclusion
Transarterial embolization is an effective treatment option for extrahepatic APFs. Understanding the fistula's architecture and flow dynamics is essential for successful intervention and in this case, embolizing the inflow allowed natural closure of outflow.

Abstract ID – 2.7.015

Role of Intra-arterial Lidocaine in Reducing Pain and Inflammation after Uterine Artery Embolisation (UAE) for Symptomatic Fibroids

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Purpose: To assess the effectiveness of intra-arterial lidocaine injection during uterine artery embolisation for symptomatic uterine fibroids.

Materials and Methods: Total 24 patients were taken. In one group, 2% of 5 ml (100 mg) lidocaine without preservative was administered into the uterine arteries after giving 2-3 aliquot of PVA particles in each side (2.5 ml in each side). The other group was embolised without supplementary lidocaine. Post-procedure pain was assessed using 100 point Visual Analog Scale(VAS); immediately, at 12 hours and 24 hours. White blood cell (WBC) count, CRP level and analgesic consumption were compared before and after the procedure. Three month followup MRI was done to look for the rate of infarction.

Result: UAE was done without complication in both the groups. 12 patients received lidocaine while 12 were control. There was significant reduction in pain immediately and 12 hours post-procedure in lidocaine group with mean VAS score of 35.3 compared to control group whose mean score was 66.8. Significant lower WBC and CRP levels were noted at 24 hours after UAE. Mean amount of analgesics was significantly reduced in lidocaine group, with few patients not needing opiate analgesics. Three month MR follow-up showed no difference in the fibroid infarction.

Conclusion: Intra-arterial lidocaine administered during UAE is safe and reduces post-procedure pain and inflammation. Analgesic usage is also reduced. Intra-arterial lidocaine has been described in few literatures. This study was different in terms of dosage of lidocaine and time of administration of the drug.

Abstract ID – 2.7.016

Balloon Assisted Thombin Injection in Iatrogenic Common Femoral Artery Pseudoaneurysms with Long Wide Neck: Case Reports

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LEARNING OBJECTIVES:
To learn about a novel technique to treat pseudoaneuryms with long wide neck.

BACKGROUND: Common femoral artery pseudoaneurysms can develop following traumatic events or as a complication of endovascular interventional procedures. There is a wide range of treatment options.

PROCEDURE DETAILS: We presented two cases, where the patients had developed pseudoaneurysms in the right common femoral artery following conventional coronary angiography. The aneurysms had long and wide necks and were managed successfully with balloon assisted percutaneous thrombin injection. Balloons were deployed to protect the native CFA. Balloon was inflated at low pressure to minimise injury to the parent vessel. Balloons were deflated after 2-3 minutes of injection of thrombin, after complete thrombosis of the pseudoaneurysm. This prevented distal embolisation and local thrombosis of CFA.

CONCLUSION: This is a novel technique that can prevent distal embolism and is sparsely mentioned in present literature. This is a potential alternative to surgical or other commonly performed procedures for a selected group of patients.

Abstract ID – 2.7.017

Spectrum of Atypical Vascular Pathologies Mimicking Duodenal Submucosal Tumor and Directly Bleeding into Duodenal Lumen: A Case Series Study with Management by Interventional Radiology

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Learning objective:
To know about the vascular pathologies in and around the duodenum that can cause melena or hematemesis.

Background:
Gastrointestinal (GI) bleeding is a life-threatening medical condition and requires a multidisciplinary approach for proper diagnosis and management. Various vascular pathologies in and around the duodenum can lead to bleeding into the duodenum either directly or through the bile duct or pancreatic duct, and the patients present with melena or hematemesis. Sometimes, these lesions present as a submucosal tumor with active bleeding or present like a bleeding duodenal ulcer. These cases must be investigated thoroughly before any endoscopic interventions, otherwise patient may land up in life-threatening situations.

Clinical Findings:
We have presented a few cases of atypical vascular pathologies mimicking duodenal submucosal tumors directly bleeding into the duodenal lumen. Two of the cases were pseudoaneurysms of gastroduodenal and cystic arteries due to underlying inflammation-chronic pancreatitis and choledochoduodenal fistula respectively. Other cases were pseudoaneurysms of hepatic and gastroduodenal arteries due to trauma and post-operative complication respectively. The duodenal site of bleed was identified on upper GI endoscopy. This was followed by computed tomography (CT) angiography and endovascular management.

Conclusion:
Vascular aneurysmal lesions and arterio-duodenal fistula should be included in the differential diagnosis of upper GI bleed. Furthur workup like CT must be obtained as soon as possible to clarify the lesion and guide further management. Proper treatment with interventional radiology and endovascular embolization can be life saving with good success rate.

Abstract ID – 2.7.018

Endovascular Intervention in Ehlers-Danlos Syndrome with a normal variant

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Vascular Ehlers-Danlos Syndrome (vEDS), a subtype of Ehlers-Danlos Syndrome, is a rare and potentially life-threatening inherited connective tissue disorder primarily caused by mutations in the COL3A1 gene, leading to the production of abnormal type III collagen1. This results in thin and translucent skin with visible veins, spontaneous ecchymosis, fragile blood vessels and hollow organs. The common sites involved are abdominal vessels in particular the mesenteric and renal arteries. A spontaneous carotid-cavernous fistula (CCF) is pathognomonic of vEDS and estimated to occur in 9.8% of individuals with vEDS4. The vascular complications include arterial dissections, aneurysms, and ruptures may have significant morbidity and fatal consequences.
While a better understanding of the genotype and phenotype of the condition is known, clinical management remains challenging due to the rarity of the disease, heterogeneous presentations, and a lack of robust evidence in informing risks and treatment strategies. A multidisciplinary approach involving clinical evaluation, molecular genetic testing, and advanced imaging techniques plays a crucial role in identifying and managing individuals with vEDS.
This case report highlights the role of Interventional Radiology in the management of vEDS with carotid-cavernous fistula and visceral aneurysms, associated with a normal variant of corona mortis. To our knowledge, this is the first report of a patient with such associations. Informed consent was obtained from the patient for this report.

Abstract ID – 2.7.019

TWISTS AND TURNS: MIGRATING STENT DRAMA IN STENT-ASSISTED COILING OF A SUPERIOR MESENTERIC ARTERY ANEURYSM

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Learning Objectives:
To explore the technical challenges and strategies in the endovascular management of superior mesenteric artery (SMA) aneurysms, including addressing complications like stent migration.
To evaluate the role of stent assisted coiling for SMA aneurysms.

Background:
Superior mesenteric artery aneurysms are rare, representing less than 1% of all visceral artery aneurysms. While often asymptomatic and incidentally discovered, they can present with life-threatening complications such as rupture or bowel ischemia. Endovascular intervention has emerged as a safe and effective treatment alternative to open surgical repair, offering minimally invasive solutions for complex cases.

Clinical Findings/Procedure Details:
A 40-year-old male presented with acute lower gastrointestinal bleeding and a history of chronic alcoholic pancreatitis. Contrast-enhanced CT imaging revealed a saccular aneurysm measuring 2 × 1 cm arising from a proximal branch of the SMA. The treatment plan involved jailing the aneurysm with a coiling catheter and stabilizing it with a balloon-mounted stent. During the procedure, the stent migrated distally, requiring swift action to reinflate the balloon and reposition the stent before proceeding with coiling. Post-procedural angiography confirmed successful aneurysm exclusion with preserved mesenteric blood flow. The patient recovered uneventfully, with no complications noted during follow-up.

Conclusion:
Superior mesenteric artery aneurysms are rare but clinically significant. Endovascular techniques, including stent-assisted coiling, offer a minimally invasive and effective solution with favorable outcomes. This case highlights the importance of early diagnosis, careful planning, and prompt intra-procedural adjustments to prevent catastrophic complications.

Abstract ID – 2.7.020

MULTIDISCIPLINARY APPROACH TO MANAGING COMPLEX HEAD AND NECK SLOW-FLOW VASCULAR MALFORMATIONS: A TERTIARY CARE EXPERIENCE

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PURPOSE
Slow-flow vascular malformations in the head and neck are congenital abnormalities that do not resolve spontaneously and can lead to airway obstruction, nerve and vessel compression, and cosmetic deformities. This study focuses on the planning and multidisciplinary approach for managing these complex lesions, emphasizing percutaneous alcohol sclerotherapy.

MATERIALS AND METHODS
A retrospective review of 12 patients treated at SRIHER, Chennai, between 2022 and 2024 was conducted. The cohort included capillary-venous, venous, and veno-lymphatic malformations. The primary objectives were restoring functionality, preventing bleeding, and achieving cosmetic goals. All procedures were performed under general anesthesia, with nasotracheal intubation for oral cavity lesions. Elective tracheostomy was performed pre-procedure for anticipated postoperative airway compression. Embolization techniques and therapeutic agents were tailored to lesion type and flow dynamics.

RESULTS
The mean patient age was 24 years, with 75% female predominance. Lesion locations included the orbital compartment (4), cheek (2), palate (2), tongue (2), infratemporal fossa (1), and parapharyngeal space (1). Polyvinyl alcohol particles were used for capillary malformations, while venous lesions were treated with absolute alcohol. Bleomycin and sodium tetradecyl sulphate were used for specific cases. No major complications occurred, though one patient experienced transient facial nerve palsy. Follow-up revealed excellent outcomes in 33.3%, satisfactory outcomes in 50%, and two patients lost to follow-up.

CONCLUSION
A multidisciplinary approach is critical for managing complex vascular malformations, with embolization as the cornerstone. Delayed plastic surgery enhances outcomes, and careful planning minimizes risks. Long-term follow-up is essential for monitoring recurrence.

Abstract ID – 2.7.021

SHUNTS NOT TO BE SHUNNED: Percutaneous/Trans jugular Obliteration of Portosystemic Shunts for Refractory Hepatic Encephalopathy – A Case Series

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Purpose
Portal hypertension may lead to spontaneous portosystemic shunts (SPSS), which bypass the liver, causing refractory hepatic encephalopathy (HE) despite medical therapy. Endovascular occlusion of SPSS can improve HE by redirecting blood to the liver. We present four cases treated via percutaneous and transjugular approaches.

Materials and Methods
Triple-phase CT confirmed SPSS in all patients. Mental status was assessed using the West Haven (WH) scoring system.
• For three patient the paraumbilical collaterals were accessed percutaneously under ultrasound guidance. Embolization was performed using coils and glue.
• For the remaining one patient, there were no paraumbilical collaterals and hence the mesenteric collaterals were accessed transjugularly and embolized with coils and glue.
Laboratory parameters (ammonia levels, liver function tests, INR) were monitored pre- and post-procedure.

Results
Mean pre-procedure ammonia levels were 120.3 µmol/L, which decreased to 32.3 µmol/L (~73% reduction) post procedure. Pre-procedure, all patients had overt hepatic encephalopathy(HE) according to WH criteria. Post-procedure assessments showed significant clinical improvement, with conversion to covert HE and resolution of confusion, somnolence, and lethargy.

Conclusion
SPSS embolization is a safe and effective treatment for refractory HE. Identification and obliteration of portosystemic collaterals can significantly reduce morbidity and improve quality of life in patients unresponsive to standard medical management. This minimally invasive approach is life-saving and highly rewarding.

Abstract ID – 2.7.022

Challenges and Limitations of Polyvinyl Alcohol (PVA) Particles in Hepatic Hemangioma Treatment: Exploring Endovascular Salvage Therapy with Bleomycin and Lipiodol in Hepatitis B Patient

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Aims:
To discuss the challenges and limitations of using polyvinyl alcohol (PVA) particles for the treatment of hepatic hemangiomas, particularly in the context of treatment failure and recurrence in a Hepatitis B positive patient. To highlight the efficacy of endovascular therapy combining bleomycin and lipiodol as a salvage approach.

Background:
Hepatic hemangiomas are common benign liver lesions, typically asymptomatic, but may require treatment in symptomatic or complicated cases. Endovascular embolization with PVA particles is a preferred modality for symptom relief and tumor size reduction. However, treatment failure and recurrence pose significant clinical challenges, particularly in patients with coexisting liver diseases, where vascular remodeling or immune-mediated factors may contribute to recurrence.

Method and Results:
A 45-year-old Hepatitis B positive patient presented with a large hepatic hemangioma and was treated initially treated by embolization with PVA particles in feb 2022. After a asymptomatic period of 9 months, she presented to the ER with hematemesis and Imaging revealed incomplete devascularization and lesion revascularization. The patient was then successfully treated with endovascular administration of bleomycin combined with lipiodol, leveraging the sclerosant effect of bleomycin and the prolonged retention of lipiodol within the lesion. Follow-up imaging demonstrated significant reduction in tumor size with no recurrence.
Conclusions:
This case underscores the potential limitations of PVA particle embolization in patients with coexisting hepatic conditions, such as Hepatitis B, and highlights the effectiveness of a bleomycin-lipiodol combination as a salvage therapy. This approach offers a promising alternative for recurrent hepatic hemangiomas, warranting further investigation to refine treatment protocols.

Abstract ID – 2.7.023

Management of Superior Vena Cava Syndrome in patients with Lung malignancy by Stent Assisted Angioplasty: A Retrospective single center study

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Background: Superior vena cava (SVC) syndrome can be caused by direct invasion of tumor into the SVC, or by external compression by an adjacent pathologic process which can be managed by Stent assisted SVC angioplasty. Aim: To retrospectively evaluate the safety and effectiveness of the Stent assisted SVC angioplasty in the treatment of SVC syndrome.

Materials and Methods: Clinical and radiological records of all patients presenting with symptoms of SVC syndrome who underwent stent assisted angioplasty at our center between November 2022 to August 2024 were analyzed. 12 such cases were identified. CT angiography or DSA (digital subtraction angiography) was done to calculate the length of involvement and diameter of the landing zone. When necessary, suction thrombectomies were executed prior to stent deployment. Stent assisted SVC angioplasty was performed via either internal jugular vein (IJV) in SVC from distal to proximal landing zone.

Results: Stent Placement: 83% of the patients received a single stent, remaining required two stents. Upfront stenting, performed prior to the initiation of chemotherapy, was implemented in 83% of cases. Technical success was achieved in all the patients without complications in the perioperative period in any of the patients. All the patients had relief of symptoms within 24 hours after the procedure. At the 3-month follow-up, records were available for 10 patients, of which 9 remained symptom-free. However, one patient succumbed to death due to the progression of lung cancer.

Conclusion: Endovascular stenting is very effective in the treatment of SVC syndrome in all patients.

Abstract ID – 2.7.024

Management of Venous Thrombosis of Upper Limb by Aspiration Thrombectomy: a Retrospective Single Center Study

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Background: Upper Limb venous thrombosis is rare but can lead to threatened limb. Data regarding its management are scarce. Aim: To retrospectively evaluate the safety and effectiveness of aspiration catheter directed thrombectomy in upper limb venous thrombosis.

Materials and Methods: Clinical and radiological records of all patients presenting with upper limb swelling who underwent catheter directed aspiration thrombectomy at our center between October 2022 to November 2024 were analyzed. These cases were falling in category of high-risk bleeding chances based on Has-BLED score. 5 such cases were identified and all details were noted and assessed. CT Venography or DSA (digital subtraction angiography) was done followed by suction thrombectomies via CAT 6 and CAT 8 system. Post procedure DSA in one/two planes was obtained to confirm the patency of vein.

Results: Technical success was achieved in 80 % of the cases. Clinical Success was achieved in 80 % of the cases in 24 hours. No major adverse events were noted related directed to the procedure. One patient (20%) required fasciotomy and responded well to it.

Conclusion: Upper limb venous thrombosis is less common than lower limb venous thrombosis. Patients in whom anticoagulation or thrombolysis could not be given due to high risk of bleeding, endovascular catheter directed aspiration thrombectomy is effective in the removal of thrombus from upper limb venous system. Relief of symptoms occurred within 24 hours after the procedure in all the patients.

Abstract ID – 2.7.025

Endovascular Glue Embolization for Mycotic Pseudoaneurysms Replaces The Conventional Treatment Modalities-Single Centre Experience

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Introduction:
Mycotic pseudoaneurysms are frequently observed in the aorta, peripheral, cerebral, and visceral arteries. If not promptly diagnosed and treated, they are associated with significant morbidity and mortality. Treatment approaches for mycotic pseudoaneurysms include endovascular stenting, embolization, open surgery, and conservative medical management. We present two cases diagnosed via multidetector computed tomography (MDCT) and successfully treated with endovascular embolization using N-butyl-2-cyanoacrylate (NBCA) glue.

Case 1: A 47-year-old male presented with sepsis and a spontaneously occurring pelvic infected hematoma. CT imaging revealed a pseudoaneurysm in the right external iliac artery. A retrograde approach via the right common femoral artery was employed, and the neck of the pseudoaneurysm was selectively cannulated using a micro-catheter and guidewire combination. The patient was treated with endovascular glue embolization. The post-embolization course was uneventful. A follow-up ultrasound performed one month later showed no residual aneurysm.

Case 2: A 37-year-old male diagnosed with subacute infective endocarditis presented with epigastric pain. CT imaging revealed a pseudoaneurysm at the juxta-origin of the superior mesenteric artery. The superior mesenteric artery was catheterized using a Yashiro 5F catheter, and the neck of the aneurysmal sac was selectively cannulated with a micro-catheter system. The patient was treated with endovascular glue embolization. No immediate complications were observed, and the one-month follow-up was uneventful.

Conclusion:
Endovascular glue (NBCA) embolization is a technically straightforward, cost-effective, and less expensive treatment option for pseudoaneurysms. Pre- and peri-procedural assessment is essential for determining the most appropriate treatment modality, ensuring both clinical efficacy and affordability within healthcare systems.

Abstract ID – 2.7.026

Bronchial Artery Embolization (BAE) in Patients with Hemoptysis – Single Centre Experience

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Bronchial Artery Embolization (BAE) In Patients With Hemoptysis – Single Centre Experience

Background
Hemoptysis is a potentially life-threatening condition that can arise from a variety of pulmonary and vascular causes. bronchial artery embolization (BAE) has emerged as an effective and minimally invasive treatment option for severe or recurrent hemoptysis.

Aim
This study evaluates the outcomes of BAE and safety in patients with hemoptysis in a single-center setting.

Methods and Materials
A retrospective review of all patients who underwent BAE for hemoptysis from June 2023 till October 2024. Data collection on patient demographics, etiology, procedural outcomes (complications, recurrence of symptoms, repeat embolization). The procedure endpoint was stasis of culprit vessel. Embolization material was 500-700 microns.

Results
A total of 50 patients (35 male and 15 female) underwent BAE for hemoptysis. The most common causes were tuberculosis (70%), bronchiectasis (26%), aspergillosis (2%) and cancer (2%). The technical success rate of the procedure was 100% (complete cessation of hemoptysis immediately post-procedure). 98% of patients remained free of symptoms, while 2% experienced recurrence due to defaulting etiological treatment. The complication rate was low with patients experiencing minor issues such as chest pain. No patients has experienced more serious complications such as catheter-related infections or non targetted ischemic complications.

Conclusion
Bronchial artery embolization is a safe, effective reliable and first-line treatment for controlling acute and chronic hemoptysis with high success rate and minimal complication. Early intervention can prevent the need for invasive surgical options and improves quality of life.

Abstract ID – 2.7.027

Interventional Radiology to the rescue: Tackling massive hemoptysis from common to rare causes

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Learning Objectives:
1.To understand the role of interventional radiology in managing massive hemoptysis.
2.To gain insight into bronchial and pulmonary vascular anatomy, endovascular techniques like bronchial artery embolization (BAE), Pulmonary Artery Embolisation (PAE), Embolisation of MAPCA (Major Aortopulmonary Collateral Arteries), Thoracic Endovascular Aortic Repair (TEVAR) and their clinical outcomes.
3.To appreciate the multidisciplinary approach in managing life-threatening pulmonary hemorrhage.

Background:
Massive hemoptysis, defined as the expectoration of blood exceeding 200 mL over 24 hours, is a life-threatening emergency requiring prompt intervention. Common causes include bronchiectasis, tuberculosis, malignancies, and vascular anomalies. Rare causes, such as mucormycosis, MAPCA, and aortobronchial fistulas, are challenging. Conventional medical management often fails, underscoring the role of interventional radiology techniques, which are minimally invasive and life-saving.
Clinical Findings/Procedure Details:
This series includes four cases:
1.Bronchial artery embolization using polyvinyl alcohol particles controlled hemoptysis in a 63-year-old male with COPD and tuberculosis.
2.Selective embolization with a vascular plug halted bleeding in a 63-year-old male with mucormycosis and a pulmonary artery pseudoaneurysm.
3.Coil embolization of MAPCA achieved hemostasis in a 29-year-old male with chronic pulmonary thromboembolism.
4.TEVAR effectively controlled hemoptysis in a 73-year-old male with an aortobronchial fistula.
All cases achieved hemostasis within 24 hours, reduced hospital stays (3–5 days), and sustained resolution at three months without complications.
Conclusion:
Interventional radiology is crucial for managing massive hemoptysis. Techniques like BAE, PAE, and TEVAR ensure rapid hemostasis, minimal complications, and enhanced recovery.

Abstract ID – 2.7.028

Feasibility and safety of portal vein recanalization in non-cirrhotic non-malignant portal vein thrombosis

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PURPOSE:
To assess feasibility and safety of portal vein recanalization (PVR) in non-cirrhotic, non-malignant portal vein thrombus (PVT) in terms of success (technical and clinical) and complication rates.

MATERIAL AND METHODS:
A retrospective, single-center observational study was conducted between 2012 and 2024 in patients with non-cirrhotic, non-malignant acute PVT. PVR was done by percutaneous, transjugular, and indirect superior mesenteric artery (SMA) thrombolysis techniques. Outcomes were assessed in terms of technical and clinical success, complications, and follow-up patency and symptom resolution. Statistical analyses were performed to evaluate factors influencing technical, clinical success and complications..

RESULTS:
Technical success was seen in 90% (complete in 45%, partial in 45%). Clinical success was seen in 80%. PVT grade 1, time to intervention <7 days, transjugular access route and absent prothrombotic state were associated with high technical and clinical success. Overall complication rate was 20%. Percutaneous access, INR >1.5 and time to intervention >7 days were associated with higher complications. Follow-up imaging showed patency rates of 80% at 6 months, with sustained clinical success in 75% of cases.

CONCLUSION:
Interventional PVR procedures are safe and effective treatment for non-cirrhotic, non-malignant acute PVT, offering high recanalization rates and favorable outcomes. Early intervention, transjugular access, and tailored treatment strategies are key to optimizing success.

Abstract ID – 2.7.029

Role of IR in Vascular Anomalies- Imaging and Treatment

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Learning objective:

1) Imaging features of vascular anomalies and its classification based on ISSVA.
2) Salient features of the vascular anomalies
3) Endovascular treatment options
4) Case examples

Background:

ISSVA classified vascular anomalies (revised 2018 classification) based on nature of origin of progenitor cells during development; if the cells have a neoplastic proliferation- they are termed Vascular tumors, if the cells have non-neoplatic proliferation with structural anomaly – they are termed Vascular malformation. Vascular tumors - benign, borderline/locally aggressive and malignant tumors. Most common - hemangioma.

Vascular malformations- high flow malformations and low flow malformations. Imaging modalities- USG and MRI are the first line investigations. Clinical findings/ Procedure: Hemangioma Doppler- Hetero-echoic lesion with vascular channels and high velocity low resistance waveform. MRI- soft tissue lesion with intermediate signal intensity on T1WI, high signal intensity on T2WI, flow voids on SE sequences and post contrast enhancement. Treatment- Embolisation and/ or surgery.

Venous malformations

Doppler - Anechoic compressible vascular channels with low velocity monophasic flow. MRI- T1 variable signal intensity depending on presence of hemorrhage or thrombosis, T2 hyperintensity. Treatment-sclerotherapy.

Lymphatic malformation

Doppler - cystic anechoic lesions with internal septa or debris. MRI- T1 heterogenous intensity due to hemorrhage, post-contrast - no central enhancement, mild peripheral and septal enhancement. Treatment- Sclerotherapy and for microcystic lesions bleomycin sclerotherapy or RFA.

Conclusion:

Vascular anomalies are classified into vascular tumors and vascular malformation by ISSVA. IR plays a critical role in treating the vascular anomalies using sclerotherapy, embolisation and image guided ablation techniques.

Abstract ID – 2.7.030

Understanding and Targeting Bleeding Ectopic Varices :Role of Interventional Radiology

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Learning objectives: Understanding ectopic varices, common sites of occurrence and risk of bleeding in the setting of portal hypertension Outline different management approach to tackle bleeding ectopic varices Challenges to manage bleeding ectopic varices taking into consideration of individual anatomy and patient factors and innovative solutions.

Background- Varices secondary to portal hypertension typically occur in the gastro-esophageal location, with well-established management guidelines. Ectopic varices that occur outside of this typical location are uncommon, with a significantly higher risk of catastrophic haemorrhage. It typically occurs due to a combination of portal hypertension and local occlusive factors. Due to the small number of cases in literature, management guidelines are not standardized, with each case being managed on a case-to-case basis. In this review, we will present a comprehensive overview of different cases of ectopic varices managed with both conventional and novel techniques targeting individual anatomic complexity and challenging patient factors.

Procedure Details: We present our single-centre experience in managing bleeding ectopic varices and novel techniques to overcome challenges individual patient.Clinical presentation, laboratory investigations, multiphase computed tomography(CT) findings were evaluated and a detailed mapping of ectopic varices done and road map for managing the bleeding ectopic varices laid out.Duodenal, jejunal, stomal, rectal and umbilical varices were targeted either transportal,transjugular,transfemoral or percutaneous routes depending on individual patients anatomical factors.

Conclusion: Ectopic varices are uncommon but potentially life threatening.Interventional radiology procedures can be effective and life saving the setting of bleeding ectopic varices.

Abstract ID – 2.7.031

Superior Vena Cava Recanalisation in the Setting of Fibrosing Mediastinitis Causing Superior Vena Cava Syndrome

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Background

Fibrosing mediastinitis is benign potential life threatening fibroinflammatory process with dense infiltrative fibrous tissue encasing aerodigestive tract and major vascular structures.Superior vena cava (SVC) syndrome is a complication of fibrosing mediastinitis with progressive vascular narrowing and obstruction. Endovascular recanalisation of SVC ; percutaneous transluminal angioplasty/ stenting are effective options for SVC syndrome due to fibrosing mediastinitis. We present three cases of SVC syndrome due to fibrosing mediastinitis managed by endovascular recanalisation procedure.

Objective:

To assess the feasibility and effectiveness of SVC stenting of fibrosing mediastinitis induced SVC syndrome.

Methods:

We present our experience of 3 cases of fibrosing mediastinitis induced SVC obstruction managed by endovascular SVC recanalisation procedure.The Clinical presentation were facial and upper limb swelling and distention of neck veins. Preprocedure MDCT and MRI used to analyse the disease extent and severity and assess the feasibility,preprocedure planning for SVC stenting/angioplasty.

Results:

All the three patients are females,Age range 13-49. Fibrosing mediastinitis is the cause of SVC syndrome in all the three cases. Type II SVC obstruction seen in 1 patient and type III obsturction seen in 2 patients. Technical success and clinical success achieved in both the cases and No periprocedural complications observed.Symptomatic relief observed during the follow upto 1 year. No recurrence observed.

Conclusion:

SVC stenting or angioplasty is feasible and effective in the setting of fibrosing mediastinitis induced SVC obstruction.

Abstract ID – 2.7.032

From Glue to Coils: Exploring Endovascular Management Options for Splenic Artery Pseudoaneurysms

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From Glue to Coils: Exploring Endovascular Management Options for Splenic Artery Pseudoaneurysms

Learning Objectives:
1.Understand embolization techniques for splenic artery pseudoaneurysms (SAPs), focusing on glue, coils, and Amplatzer vascular plugs, including their effectiveness and complications.
2.Emphasize individualized treatment approaches based on clinical scenarios and aneurysm characteristics.

Background:
SAPs are rare, life-threatening vascular lesions caused by trauma, pancreatitis, or surgical interventions. Timely intervention is critical to reduce mortality. Embolization is the preferred treatment, offering a minimally invasive alternative to surgery. Techniques such as stents, glue, coils, and vascular plugs have unique advantages and limitations.
Procedure Details:
We present four cases of SAPs treated with different embolization methods:
1.A 49-year-old male with pancreatitis underwent endovascular embolization using glue.
2.A 53-year-old male with SAP was treated with detachable coils and 33% NBCA glue, achieving stable embolization.
3.A 68-year-old male with dissecting SAP underwent a similar treatment to case 2.
4.A 50-year-old male with a wide-necked SAP was embolized using detachable coils and an Amplatzer vascular plug, with parent vessel sacrifice.

Conclusion:
This case series highlights that glue, coil, glue-coil combinations, and Amplatzer vascular plugs are effective options for SAP management. The choice of technique should be tailored to aneurysm size, location, and technical feasibility. All techniques resulted in successful occlusion without significant complications, underscoring the versatility and safety of interventional embolization for SAPs.

Abstract ID – 2.7.033

IVC plasty and anticoagulation in a case of persistent hematuria with Acute Budd Chiari syndrome- thinking out of the box

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Learning Objectives: 1. Role of anticoagulation in managing acute thrombotic states 2. Importance of Occam's razor 3. Thinking out of the box in managing cases in Cath lab.

Background: A 26Y/M presented to IR with c/o haematuria and Left Renal Vein, IVC thrombosis and Acute BCS. Patient was started anticoagulants. USG showed intraluminal heterogenous content in IVC with thrombosed right Hepatic vein. CT angiography showed IVC thrombosis extending upto left renal vein with intraluminal thrombus in left renal vein. Minimal residual lumen seen in IVC. Contrast outflow was seen from right renal vein and left accessory renal vein along with retroperitoneal drainage. Severe IVC stenosis at suprahepatic segment of IVC with peripheral calcifications noted.

Procedure: Venogram revealed minimal flow of contrast seen through IVC into right atrium. Aspiration of renal vein was done using 7F aspiration catheter with minimal thrombus being aspirated. IVC stenosis was crossed over with .035" guide wire and diagnostic catheter. Wire was snared through right IJV access. Balloon Plasty was done and venogram was taken which revealed good flow across the IVC. Patient was kept on anticoagulants. There was clearing of the haematuria next day. Patient was discharged and was followed up in IR OPD. CT showed patent IVC lumen with resolution of the left renal vein thrombus.

Conclusion: Chronic outflow occlusion at the supra hepatic segment of IVC was the primary pathology which culminated in Acute Budd Chiari, Left Renal vein thrombosis. IVC Plasty with anticoagulation solved the complaint of Haematuria.

Abstract ID – 2.7.034

Endovascular cannulation of left gastric artery in GI interventions- approach and navigation

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Purpose: GI bleeds are mostly now managed by endovascular approach by IR. GDA and Splenic artery are one the most common culprits for acute GI bleed with patients presenting with hematemesis, Malena and acute fall in haemoglobin. Left Gastric artery is usually from the celiac trunk at the superior aspect along with trifurcation of Celiac trunk into Common hepatic and Splenic arteries. The variations being common with artery leading to difficult cannulation. We evaluated and successfully treated endovascularly 6 cases of acute GI bleed with embolization of LGA through multiple approaches.

Materials and Methods: 6 cases of acute GI bleed were managed through endovascular approach with LGA embolization. Patients evaluated in the CT angiography studies. After failed initial trial of cannulation different approaches were used ranging from simple angulation of the guidewire to triaxial systems.

Results: All the patients underwent successful embolization. Rapid improvement in the vitals was seen. These approaches saved fluoroscopy time and reduced patient and operator radiation dose. Fewer injections needed for the procedure reducing the chances for CIN in hypovolemic and hypotensive patients.

Conclusion: LGA is known to have varied origin at the celiac trunk leading to difficult cannulation and complexities. Anatomy should be studied before taking up the patient otherwise it might lead to multiple attempts at cannulation with increased risk of dissection, arterial occlusion, increased contrast and radiation dose. Our described approaches at navigation can help reduce time as well as dose in these patients as well as exposure to operator.

Abstract ID – 2.7.035

IR management in uncontrolled GI bleed with emphasis on approaches & various techniques of embolization in complex unusual scenarios

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Purpose: An acute uncontrolled gastrointestinal hemorrhage is one of the commonest emergencies for which interventional radiologist is called upon. In such emergency situations quick access of bleeding vessel is of paramount importance which can even be more complicated in celiac stenosis/ thrombosis. We evaluate technical and clinical success of embolization of bleeding vessels while using backdoor/retrograde access via gastro-duodeno-pancreatic trunk & assess the role of embolization in complex unusual scenarios.

Materials and Methods: A retrospective review of patients from 2016 to 2024 who underwent endovascular embolization for acute uncontrolled gastrointestinal hemorrhage using front door &/or backdoor/retrograde access of bleeding vessels with or without alternative percutaneous approach was done. All were inpatients at the time of the procedures, and they were followed up till discharge or demise.

Results: Cause of application of different approaches was due to multiple reasons including severe spasm of celiac axis, celiac stenosis/thrombosis, dissection of celiac axis and tortuous anatomy of celiac axis, backdoor filling of the pseudoaneurysm by side branch or collateral. Technical success was achieved with immediate cessation of bleeding in almost all patients. None of the patients developed bowel ischemia. The use of antegrade through coils/ backdoor/retrograde access of bleeding vessels in cases of acute upper gastrointestinal hemorrhage with difficult/failed initial front-door access for therapeutic transcatheter embolization is viable alternative and relatively safe with high technical and clinical success without significant complications.

Abstract ID – 2.7.036

You left it; we retrieve it- foreign body retrievals in IR cath lab

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Learning Points: 1. Role of IR in managing foreign body retrievals 2. Access routes in foreign body retrievals

Background: Number of percutaneous endovascular therapies has increased substantially in the present times ranging from Neuro, Coronary, Nephrology and biliary. This has even more become prevalent due to many procedures being done without Image guidance as in ICUs and high dependency units. The foreign body in intravascular space is known to cause range of complications including thrombosis and source of infection. It can very well embolize proximally and distally causing significant morbidity and mortality. Most common foreign bodies include guidewires, broken central lines, dialysis catheters etc. Percutaneous approach is the most preferred route for removal of foreign bodies. This is preferred because its minimally invasive with enjoys high success rates with minimal complications in comparison to open surgical methods which requires exploration and significant duration of hospital stay.

Procedure Patients were referred to department of IR for misplaced guidewires, broken angioplasty balloons, PICC lines. Patient's age ranged from neonate to adult. Under USG guidance accesses were taken in either Jugular or femoral veins. Under fluoroscopic guidance snares (either goose neck or trifoliate) were introduced into the vessel and the foreign body was captured and snared out. All patients went successful retrieval and were the managed successfully.

Conclusion: Percutaneous endovascular retrieval of foreign bodies is well established minimal invasive procedure in this era of minimal invasive procedures. The procedure rescues patients from undergoing open surgeries and decreased morbidity and mortality

Abstract ID – 2.7.037

Predicting Response to Transarterial Chemoembolization in Hepatocellular Carcinoma Using Machine Learning Models: Integrating Clinical, Radiomic, and Deep Learning Approaches

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Background: Hepatocellular carcinoma (HCC) is a leading cause of cancer-related deaths, with transarterial chemoembolization (TACE) being a key treatment for intermediate-stage cases. Accurate prediction of TACE response remains challenging, prompting the exploration of clinical, radiomic, and deep learning models.

Aim: This study aims to develop and evaluate machine learning models for predicting the response to TACE in HCC patients, integrating clinical, radiomic, and deep learning approaches to improve predictive accuracy.

Methods and Materials: We utilized the public "WAW-TACE" dataset, comprising 179 training cases and 50 test cases with clinical data and radiomic features from multiphasic CT images, and corresponding masks. Three models were explored: (A) A clinical model incorporating 28 parameters, (B) A radiomic model using Pyradiomics-extracted features, and (C) A deep learning model using multiphasic CT images processed with EfficientNet. Performance was assessed using 5-fold cross-validation and testing on a held-out dataset.

Results: The clinical model achieved 5-fold CV accuracy of 70%, with a sensitivity of 76.3%, specificity of 50%, and AUC of 0.69. The radiomic model demonstrated an accuracy of 76.1%, sensitivity of 94.3%, specificity of 18.2%, and AUC of 0.74, indicating its ability to detect responders effectively. The deep learning model had a test accuracy of 55.6%, sensitivity of 54%, specificity of 63.3%, F1 score of 0.67, and AUC of 0.61.

Conclusion: Machine learning models show promising results in predicting response to TACE. Further optimization is required for enhanced predictive accuracy.

Abstract ID – 2.7.038

Popliteal Artery Entrapment by an Aberrant Soleus band: A Combined Modality approach

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Learning Objective
Understand the utility of a combined surgical and endovascular approach for managing complex PAES cases.

Background
Popliteal artery entrapment syndrome (PAES) is a rare cause of peripheral vascular disease in the young, manifesting as exercise-induced claudication due to extrinsic compression of the popliteal artery by aberrant musculotendinous structures.

Clinical findings
A 30-year old male presented with a one-year history of unilateral lower limb pain progressing to intermittent claudication, worsening during exertion. Physical examination revealed feeble peripheral pulses. MRI of the knee revealed a muscle band of Soleus separating the popliteal vessels. Intraoperative findings corroborated the imaging results, revealing an aberrant soleus muscle band causing arterial compression. Surgical decompression was performed by releasing the aberrant muscle band to relieve the mechanical obstruction. Subsequently, peripheral angiogram done revealed complete occlusion of the popliteal artery. Additionally, the complete arterial occlusion was managed with endovascular balloon angioplasty under intra-arterial Tirofiban cover, targeting thrombus clearance and arterial recanalization.
The combined approach resulted in successful recanalization of the popliteal artery with clearance of the thrombus. Postoperatively, the patient reported significant relief from claudication symptoms.

Conclusion
This case highlights the value of a combined surgical and endovascular approach in managing complex presentations of PAES. Young, active patients with exertional claudication should be thoroughly evaluated for this rare condition, as timely intervention can prevent irreversible vascular damage and restore functional outcomes. The integration of surgical decompression and endovascular techniques helps achieve optimal results in the treatment of PAES.

Abstract ID – 2.7.039

Fistulisation between bronchial artery/systemic collateral arteries with the pulmonary circulation on catheter angiography in patients with hemoptysis

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Learning objectives: To recognize presence of bronchial/systemic arterial fistulisation with pulmonary circulation and adequate management of fistula

Background:
Fistulisation from bronchial arteries to the pulmonary arteries have been reported in upto 13% cases of hemoptysis. Isolated case reports have been made in the past, however no case series is available in literature.

Materials and Methods:
This is a case series of 6 patients who presented to AIIMS, Nagpur with massive/ongoing hemoptysis. All 6 patients had history of old tuberculosis.
Patient 1 had fibrobronchiectatic changes in the left lung with extensive collaterals from the LIMA fistulising with the LPA, embolized using NBCA glue. Patient 2 had collaterals from the LIMA, proximal left subclavian artery and DTA with fistulisation with the LPA. Embolization was done with NBCA glue, gelfoam and PVA. Patient 3 had fistulisation of right bronchial artery with RPA. Embolization was done with gelfoam and PVA. Patient 4 had fistulisation between the right bronchial artery and RPA which was embolised with gelfoam and PVA particles. Patient 5 had fistulisation from the LIMA to the LPA which was treated with gelfoam and PVA particles. Patient 6 had fistulisation from left bronchial artery as well as LIMA to LPA which were treated with gelfoam and PVA. All six patients had cessation of hemoptysis following the procedure. No procedure related complications were encountered.

Conclusion:
Fistulisation between Bronchial artery/systemic collateral arteries with the pulmonary circulation is common and under-recognized in patients with hemoptysis. Minimally invasive angioembolization is lifesaving in such patients.

Abstract ID – 2.7.040

UTERINE ARTERY EMBOLIZATION FOR MANAGEMENT OF PLACENTA ACCRETA SPECTRUM DISORDERS

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PURPOSE: To evaluate the outcomes of patients with placenta accreta spectrum (PAS) disorders who underwent uterine artery embolization (UAE) following cesarean delivery versus obstetric hysterectomy following cesarean (C) delivery.

MATERIALS AND METHODS: A retrospective review of patients with PAS treated with UAE following cesarean (C-UAE) section between 2017 and 2022 was performed. Patients in the C-UAE group underwent UAE after cesarean delivery; patients in the control group underwent hysterectomy after cesarean delivery (C-hyst). The primary outcome was a requirement for transfusion with packed red blood cells. Secondary outcomes included estimated blood loss (EBL), procedural time, length of hospital stay, length of intensive care unit (ICU) stay, and adverse events.

RESULTS: The study included 103 patients, 60 in the C-UAE group and 43 in the control group. Median EBL, transfusion requirements, and length of ICU stay in the UAE group compared with control group were significantly lower ($p < 0.001$). There were no cases requiring massive transfusion or intraoperative deaths from hemorrhagic shock in the C-UAE group. The length of hospital stay was longer in the C-hyst group than C-UAE group ($P<0.001$). No adverse events following UAE were noted. Fourteen patients in the C-UAE group were naturally conceived and delivered by repeat LSCS in the follow up.
CONCLUSION: UAE following cesarean delivery in patients with placenta accreta spectrum disorders appears to be safe and effective in decreasing transfusion requirements, EBL, post-procedure recovery time, complications, and length of ICU stay compared with hysterectomy.

Abstract ID – 2.7.041

Beyond the Scalpel: How Interventional Radiology is Shaping the Future of Liver Transplant Care

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This article emphasizes the critical role of interventional radiology in the post-hepatic transplant setting, highlighting its advantages over traditional surgical methods and its growing importance in improving long-term outcomes for transplant recipients.
While liver transplantation is lifesaving, complications such as vascular issues and biliary obstructions often arise, traditionally requiring invasive surgery and resulting in prolonged recovery. IR has transformed post-transplant care, offering quicker recovery, fewer complications, and better long-term outcomes.
In this study, we reviewed 16 cases of post-liver transplant complications, categorized into biliary (leaks and stenosis) and vascular (arterial, venous, and portal) groups. Biliary complications included 6 cases of biliary stenosis, all treated successfully with internal/external drainage, and 5 cases of biliary leaks with biloma, managed through imaging-guided percutaneous drainage. Vascular complications included 2 cases of hepatic venous obstruction, both treated with stenting and venoplasty, achieving 100% success. One case of portal vein thrombosis and stenosis was managed with catheter-directed thrombolysis and angioplasty, while 1 case of hepatic artery pseudo-aneurysm was treated with a balloon-mounted covered stent. Additionally, hepatic artery thrombosis was resolved with successful thrombectomy.
IR has become a game changer in post-transplant care, offering precise, minimally invasive treatments for life-threatening complications. From restoring vascular flow to relieving biliary obstructions, IR significantly improves patient outcomes, enabling faster recovery and fewer risks. As liver transplantation techniques continue to evolve, IR remains at the forefront, bridging the gap between surgical intervention and recovery, enhancing both survival and quality of life for transplant recipients.

Abstract ID – 2.7.042

STUDY OF ACCESS AND NAVIGATION OF AORTOILIAC OCCLUSIONS IN CATH LAB

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Background
Aortoiliac diseases pose a management challenge in cath labs. Endovascular approaches have evolved as a preferred treatment option over open bypass surgeries.

Purpose
To evaluate the access and navigation techniques for aortoiliac occlusions in the cath lab and assess the outcomes of endovascular treatment.

Materials and Methods
- Retrospective observational study
- 50 patients underwent aortoiliac stenting
- Disease segments: ostium, unilateral short segment common iliac, external iliac, or bilateral iliac arteries
- Follow-up: primary patency

Results
- Various access approaches: antegrade, retrograde vascular accesses
- Catheter shapes and crossing catheters used for access
- Navigation: regular angiographic catheters, crossing catheters, and microcatheters
- Successful stenting: 100%
- Complications (dissections, subintimal entries): managed successfully on-table

Conclusion
Endovascular approaches are preferred over open surgical procedures for aortoiliac diseases due to low morbidity and reduced hospital stay. Advancements in techniques and technology will further establish endovascular first approach as the standard of management.

Abstract ID – 2.7.043

Endovascular shunt closure in a case of Abernethy malformation in a 4 year old

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Learning objectives: 1. To learn about and identify the types of Abernethy malformation. 2. To Learn about endovascular management of type 2 Abernethy malformation

Background: Abernethy malformation is a rare congenital port-systemic shunt, which as the name suggests is when there is an abnormal communication between the portal system and the systemic venous circulation. Symptomatic Abernethy malformation should be treated and the treatment depends on the type of malformation. Type I malformation is treated by liver transplantation, while type II malformation can repaired using endovascular shunt closure.

Clinical Findings/Procedure details: The patient was a 4 year old female who presented with respiratory distress, fever and peripheral cyanosis. Patient was maintaining saturation of 70-80% on 10L O2. CECT abdomen revealed abnormal shunting between right portal vein and IVC which was diagnosed as type II Abernethy malformation. The patient taken and patient was taken up for endovascular shunt closure. Via the right jugular access a long sheath was taken through the IVC across the shunt into the portal system and a vascular plug was deployed to completely occlude the shunt. Post procedure there was improvement of saturation of the patient to 90% on the very same day.

Conclusion: Management of congenital proto-systemic shunts depends on its type. While type I requires liver transplantation, type II can be managed by endovascular therapy or surgical ligation. Endovascular closure has become the management of choice in type II shunts due to its minimally invasive nature.

Abstract ID – 2.7.044

Endovascular interventions in Post thrombotic syndrome

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BACKGROUND
Post-thrombotic syndrome (PTS) is a often neglected territory but associated morbidity with PTS may be significant and patients present with significant edema, chronic pain, swelling, skin changes, and heaviness of the affected limb. This study elaborates on clinical aspects of PTS and endovascular options.

AIMS
To assess role of endovascular management of PTS which often goes underdiagnosed and hence, undertreated. To evaluate the patency rates for Across the joint femoral venous stents at 3 months follow up.

MATERIALS AND METHODS
5 patients with debilitating symptoms of thrombotic syndrome were treated from June 2024 to August 2024. Endovascular management with a combination of Angioplasty, PCDT followed by selective stenting was done. CEAP classification, Villalta and VCSS score was used to evaluate treatment outcomes at 3 months for patients.

RESULTS
3 patients were successfully treated with Angioplasty followed by EIV and CFV stenting. In 2 patients, however, the procedure failed due to inability to negotiate the chronically thrombosed CFV/ SFV. Follow up Doppler US revealed patent venous stents with wall to wall color flow.

CONCLUSION
PTS is a complication of DVT which is associated with significant morbidity and decreased quality of life. Endovascular management of PTS includes angioplasty and stenting with promising results. Iliofemoral and Across the joint femoral venous stents showed good patency at 3 months follow up. However, failures can also occur when there is extensive thrombosis.

Abstract ID – 2.7.045

Endovascular Management of Carotid Blowout Syndrome: An instuitional review.

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Background:
Carotid blowout syndrome (CBS) is a rare and life-threatening complication in patients treated for head and neck cancer. The incidence of CBS in patients following previous radiotherapy varies from 4.5% to 21.1%. Patients who have received more than 70Gy have up to 14-fold increased risk of developing CBS.

Aim: To evaluate the outcomes of endovascular management in patients with carotid blowout syndrome (CBS) and compare the clinical outcomes between different treatment modalities.

Methods and materials: A retrospective analysis of 24 patients diagnosed with CBS who underwent endovascular management in madras medical college between 2022-2024. The study includes:19 cases of external carotid artery (ECA) and branch blowouts treated with coils and liquid embolization. Five cases of common carotid artery (CCA) and internal carotid artery (ICA) blowouts, with 4 cases treated with stenting and 1 case with parent artery occlusion .

Results:
Immediate hemostasis, rebleeding rate , 30 day mortality rate, median survival rate was 95%, 11%,5%, 6months in former and 100%, 20%,20%,5 months in later. Coil migration was complication observed in 1 case of ECA blow out. In CCA and ICA blow out one case went in for stent thrombosis and other went in for dissection.

Conclusion: Endovascular management shows high immediate hemostasis rates in CBS patients. However, stenting in CCA and ICA blowouts is associated with higher complication rates, particularly stent thrombosis and dissection. Coils and liquid embolization for ECA and branch blowouts appear to have fewer complications and a better overall outcome.

Abstract ID – 2.7.046

Pancreatitis-associated pseudoaneurysms: Insights into efficacy, techniques, and outcomes of endovascular embolization with imaging findings

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Title :Pancreatitis-associated pseudoaneurysms: Insights into efficacy, techniques, and outcomes of endovascular embolization with imaging findings

Background:
Pancreatitis often leads to arterial pseudoaneurysms, posing a high risk of rupture and hemorrhage. Early detection through CT angiography (CTA) and timely endovascular treatment is essential.

Objective:
To assess the efficacy and outcomes of endovascular embolization for pancreatitis-associated pseudoaneurysms and highlight key techniques.

Methods:
This prospective study involved 30 patients treated between November 2022 and September 2024 at NIMS, Jaipur. Pseudoaneurysms identified via CTA or digital subtraction angiography (DSA) were embolized using platinum coils and N-butyl cyanoacrylate (NBCA). Success metrics included complete pseudoaneurysm occlusion and absence of recurrent bleeding within 30 days.

Results:
The study included 30 patients (mean age 38.7 years; 77% male). Most pseudoaneurysms were in the gastroduodenal artery (41%) and associated with acute or chronic pancreatitis. Technical success was 96%, and clinical success was 95%. Complications were minimal, with no peri-procedural deaths.
Discussion:
The choice of embolic agents and patient-specific factors are critical to success. Coil embolization had a 90% success rate, while combining coils with glue achieved 100%. These results align with current literature.
Conclusion:
Endovascular embolization offers a highly effective and safe treatment for pancreatitis-associated pseudoaneurysms, achieving excellent outcomes with minimal complications.

Abstract ID – 2.7.047

Adverse Event profile of Sclerosing Agents for Venous Malformations: A Systematic Review

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Purpose:
Sclerotherapy is a cornerstone treatment for venous malformations (VM), using sclerosants. Despite their widespread use, these agents differ significantly in their safety profiles. This systematic review aims to compare the complication rates associated with these agents.

Methods:
A comprehensive search of PubMed, Embase and Cochrane Library was conducted to identify studies reporting complications of sclerosing agents in venous malformations. Data on patient demographics, lesion type and location, sclerosing agent, and reported complications were extracted. Both local and systemic complications were analysed.

Results:
88 studies involving 4,195 patients met the inclusion criteria. Sclerosing agents included ethanol, sodium tetradecyl sulphate (STS), bleomycin, polidocanol, ethanolamine oleate, with some studies combining agents or integrating surgery and embolization. Pain, swelling, ulcerations, infections, hyperpigmentation, hematoma and thrombophlebitis were common local complications. Rare systemic complications included haemoglobinuria, transient pulmonary hypertension and cardiac arrhythmia. Ethanol had higher complication rates particularly tissue ischemia and proximity nerve paresis. STS, Polidocanol and Ethanolamine oleate demonstrated comparable safety profiles. Bleomycin had the lowest overall complication rate but was associated with rare but severe events like pulmonary fibrosis at high cumulative doses. Risk mitigation strategies, such as reducing ethanol concentration and using imaging guidance, improved safety outcomes

Conclusions
Sclerosing agents differ significantly in safety profiles. While ethanol is potent, it carries higher risks of severe complications. Polidocanol and STS offer safer alternatives, and bleomycin may be preferred for cases requiring minimal systemic risk. Clinicians should select agents based on patient and VM characteristics, balancing efficacy and safety.

Abstract ID – 2.7.048

Management of arterio-veno-lymphatic malformations with liquid sclerosing agents: its comparison and outcomes

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Background
Arterio-veno-lymphatic malformations (AVLMs) are complex vascular anomalies categorized as low-flow (venous and lymphatic) or high-flow (arterio-venous) lesions.

Aim
This study compares the efficacy, safety, and outcomes of three sclerosing agents-bleomycin, sodium tetradecyl sulfate (STS), and polidocanol in treating slow-flow AVLMs.

Methods and Materials
A prospective cohort of 36 patients aged 3-70 years, confirmed by clinical history, imaging, and histological analysis, was randomly divided into three groups of 12, each treated with one of the agents. Treatment outcomes were classified into complete response (>90% reduction), near-complete response (70-90%), partial response (10-70%), or no response (<10%). Sclerotherapy sessions were guided by fluoroscopy, and complications were evaluated using the CIRSE classification.

Results
STS showed the highest complete response rate (25%) and the lowest incidence of adverse effects, making it the most balanced agent. Polidocanol achieved comparable near-complete response rates (58.3%) but required slightly more sessions. Bleomycin, though effective in lymphatic malformations, necessitated more sessions (3.45 ± 1.21) and had a higher complication rate, including pulmonary toxicity. On average, STS required 2.04 ± 0.03 sessions, significantly fewer than polidocanol (2.88 ± 0.74) and bleomycin. STS was particularly effective for venous malformations, while polidocanol was suited for mixed malformations, and bleomycin demonstrated consistency in lymphatic malformations.

Conclusion
The findings emphasize tailoring sclerosant selection to malformation type and patient factors. STS is recommended as the preferred agent, with polidocanol and bleomycin serving as valuable alternatives in specific cases. A multidisciplinary approach and precise imaging are crucial for optimizing outcomes.

Abstract ID – 2.7.049

Interventions in Complicated Aortic Dissection: A Tertiary Care Centre Experience

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Learning Objectives:
1.Discuss early and late complications of aortic dissection and their management.
2.Review interventions for complicated aortic dissection.

Background:
Aortic dissections are classified by location (Stanford type A: ascending aorta; type B: descending aorta) and chronicity (acute: <2 weeks; subacute: 2 weeks–3 months; chronic: >3 months). Acute dissections may be complicated or uncomplicated. Complications requiring intervention include rupture, aneurysm expansion, malperfusion syndromes, refractory pain, and hypertension. Endovascular repair is the preferred treatment for acute complicated cases, particularly type B dissections, due to its survival advantage over open surgery.

Clinical Findings:
Complicated aortic dissection demands urgent intervention to seal the primary entry tear and restore perfusion. Endovascular stent grafting is commonly employed, often with adjunctive techniques such as PETTICOAT, which maintains spinal perfusion and increases true lumen volume. Endovascular fenestration is another technique used in type B dissections, creating a distal fenestration in the aortic septum to balance flow between the true and false lumens and improve distal perfusion. These strategies effectively address malperfusion syndromes, restore blood flow, and prevent further complications.

Conclusion:
Management of complicated type B dissections requires prompt diagnosis and intervention. Endovascular approaches, including stenting and fenestration, have largely replaced open surgery, especially in cases with visceral malperfusion. This exhibit highlights complications and interventions in aortic dissection through a series of cases managed at our institute.

Abstract ID – 2.7.050

Renal artery embolization for renal angiomyolipomas

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PURPOSE
Role of interventional radiology in managing renal angiomyolipoma (AML).

MATERIALS AND METHODS
This is a retrospective analysis conducted on 18 patients from 2018-2024, whose imaging are suggestive of AML and size > 4cm. Most commonly identified incidentally. In few the presenting symptoms are flank pain, hematuria. Renal angiogram performed and selectively cannulated, embolized with PVA particles (300-500) in all patients and 3mm microcoils used in 2 patients, glue used in 1 patient along with PVA particles.

RESULTS
Technical success was 100% in our study with absent or significant reduction in blush of tumor post embolization. Clinically had decrease in symptoms like flank pain and hematuria. On follow up AML cases showed decrease in size of lesion.

CONCLUSION
Renal artery embolization can be done for treatment for angiomyolipoma (>4cm size) to prevent risk of bleeding.

Abstract ID – 2.7.051

Renal vascular interventions for renal vessel injuries

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MATERIALS AND METHODS
This was a retrospective analysis conducted on 13 patients (2018-2024) who presented with renal vessel injuries. Out of 13 patients, 3 of them were incidentally detected and 11 were symptomatic. The most common imaging finding was renal artery pseudo aneurysms following iatrogenic interventions. Few cases were after trauma. 1 case post renal transplant thrombosis of renal artery. 3mm nester microcoils used for pseudo aneurysm embolization, 300-500 um PVA particles used in 2 traumatic renal artery bleeders, stent used in thrombosed transplant renal artery.

DISCUSSION
Technical success was 100% in our study with complete embolization of bleeders and significant lumen reconstitution in thrombosed transplant renal artery. Clinically there was no further increase in hematoma or decrease in hemoglobin. Symptoms of flank pain, hematuria reduced. Hemodynamic stability maintained. Near complete recanalisation of thrombosed transplant renal artery with normalisation of transplant kidney function achieved.

CONCLUSION
Endovascular interventions for renal vascular injuries are a safe and effective alternative to surgical methods
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Abstract ID – 2.7.052

Endovascular Coil Embolization of a Ruptured Rasmussen's Aneurysm with Massive Hemoptysis, Large Right Upper Lobe Cavitation with Fungal Ball, and Tuberculosis Sequelae: A Case Report

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Clinical History:A 72-year-old male with a history of treated pulmonary tuberculosis presented with sudden massive hemoptysis, acute respiratory distress, and chest pain. Imaging revealed a large right upper lobe cavitary lesion containing a fungal ball (aspergilloma) and contrast extravasation, indicating a ruptured Rasmussen's aneurysm.

Treatment Options/Outcomes:The patient underwent emergent pulmonary angiography, confirming the aneurysm in a right upper lobe segmental pulmonary artery branch. Selective catheterization followed by coil embolization using microcoils (3–5 mm) with a sandwich technique achieved complete occlusion of the aneurysm. Post-procedure, the patient stabilized, hemoptysis resolved, and he was extubated within 48 hours. Antifungal therapy was initiated for the aspergilloma, with follow-up showing continued improvement. The patient was discharged after three weeks without recurrence of hemoptysis.

Discussion: Rasmussen's aneurysm is a rare but life-threatening cause of massive hemoptysis, often arising from pulmonary artery wall erosion due to chronic infections like tuberculosis. Coexisting aspergilloma increases the risk of superinfection and bleeding. Endovascular coil embolization offers a minimally invasive and effective treatment for rapid hemorrhage control, particularly in high-risk patients where surgery carries greater morbidity.

Take-Home Points:

•Rasmussen's aneurysm is a rare, fatal cause of hemoptysis in post-tuberculosis patients.

•Endovascular coil embolization is a safe and effective treatment for aneurysm rupture.

Abstract ID – 2.7.053

To evaluate the technical and clinical efficacy of Uterine Artery Embolization (UAE) via the transbrachial approach in various Obstetrics and Gynecological indications presenting with refractory abnormal uterine bleeding: An Institutional Retrospective Study

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Background: Limited studies exist on the safety and efficacy of uterine artery embolization (UAE) via the transbrachial route for abnormal uterine bleeding (AUB) due to vascular causes, including retained products of conception, arteriovenous malformations, gestational trophoblastic disease, pseudoaneurysms, and placenta accreta.

Aim: This study aims to assess the technical success, safety, and clinical efficacy of UAE through the transbrachial approach.

Materials and Methods: We conducted a retrospective analysis of 70 patients with vascular uterine pathologies and refractory AUB. Technical success was defined by successful cannulation and embolization of both uterine arteries. Clinical success was determined by the cessation of AUB and the need for subsequent procedures such as dilation and curettage (D&C) or hysterectomy. Complications related to the puncture site or procedure were monitored during follow-up.

Results: Polyvinyl alcohol (PVA) particles were the embolic agent in 61.4% of cases. The technical success rate was 98.5%, while clinical success was observed in 88.5%. D&C was performed in 10% of patients, and one required a hysterectomy due to technical failure. Minor complications included hematomas in 14% of patients, with mild pelvic pain and fever occurring in 57% and 28.5%, respectively, all manageable conservatively.

Conclusion: UAE via the transbrachial route is a safe and effective minimally invasive technique for managing refractory AUB from various vascular uterine pathologies, with low complication rates and the advantage of early mobilization.

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Tips and tricks of percutaneous sclerotherapy for low flow vascular malformations

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Learning objectives:
1.Classification of vascular anomalies and study features of low-flow vascular malformations based on MRI and Diagnostic Angiography Findings.
2.Various agents for sclerotherapy, methods to block deep venous communication and recent advances in management of low-flow vascular malformations.

Background:
·Vascular malformations can be classified using ISSVA or as high-flow and low-flow anomalies.
·Low-flow vascular malformations including venous, lymphatic and combined veno-lymphatic malformation are treated with minimally invasive techniques like sclerotherapy.

Procedure details:
·Inclusion criteria: Low-flow malformations diagnosed on MRI or Ultrasound without prior treatment. Access and Sclerotherapy: Under ultrasound and fluoroscopy guidance, diluted contrast was injected for lesion characterization and deep venous communication followed by injection of appropriate sclerosants. Sclerosants: Detergent-Based (Polidocanol, Sodium Tetradecyl Sulphate): Tessari's method of foam production. Ethanol: Most effective sclerosant used for large venous malformations or those with deep venous communication. Bleomycin: Used for lymphatic malformations. Other sclerosants: OK-432 (Picibanil), Ethibloc. Causes for failure or slow response in sclerotherapy, Decreases endothelial and sclerosants contact time. Deep run-off causing DVT or pulmonary embolism. Blocking deep venous system for efficient and safe sclerotherapy achieved by: Platinum/ fibered coils, USG guided compression. Ligation/ tourniquet application. Recent advances in management: N-butyl-2-cyanoacrylate: Intra-operatively before surgical excision. Laser photocoagulation: Facial venous malformations. Radiofrequency ablation: Recurrent symptomatic lesions.

Conclusion:
Sclerotherapy provides good outcomes for patients with low-flow vascular malformations when performed using specific sclerosants and blocking the deep venous communication. However; sclerotherapy does not correct the underlying developmental abnormality.

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RARE CAUSES OF MAY-THURNER SYNDROME: ITS MANAGEMENT & OUTCOME

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Background
May-Thurner Syndrome (MTS) is a compression of left common iliac vein (LCIV) between the L5 vertebral body and the right common iliac artery (RCIA), leading to left leg swelling, venous insufficiency, non-healing ulcers, post-thrombotic sequlae (PTS) and and deep vein thrombosis (DVT).

Aim
The aim of this study was to increase awareness of rare factors contributing for MTS, its sequlae and preferred management strategies.

Methods and Materials
Four patients in their 4th decade presented with post-thrombotic sequelae in the left lower limb persisting for one year. CT-Angiography (CTA) was performed to rule out MTS, and Duplex ultrasound (US) was used to confirm sequales of PTS and DVT.

Results
CTA identified unusual anatomical contributors:

- Osteophytes from L5 vertebra (two cases).
- Retrolisthesis of L5/S1 (one case).
- L4/5 disc protrusion (one case).

Significant focal compression of LCIV, sequale of PTS and DVT in left lower limb. Duplex-US confirmed chronic thrombi in the common femoral and superficial femoral veins, popliteal vein thrombosis, dilated and tortuous superficial veins. DSA confirmed focal extrinsic compression over LCIV, sequale of PTS and DVT with varicose vein.
Patients underwent endovascular self-expanding metallic-stenting via ® jugular venous-route.Patients were placed on long-term oral anticoagulant and to maintain INR > 2. Clinical and Duplex-US follow-up at 1 and 3 months showed significant improvement.

Conclusion
The above rare factors contributing MTS should be considered in management. Self-expanding metallic stenting is preferred option in these scenarios.

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Technical and clinical outcomes of balloon angioplasty +/- stenting in patients with chronic limb-threatening ischemia

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Purpose:
To assess the technical success, physiological (ankle-brachial index, pain score), and hemodynamic (vascular Doppler) parameters change post balloon angioplasty +/- stenting in Chronic limb-threatening ischemia (CLTI) patients.

Materials and Methods:
This prospective, single-centre study consists of 35 patients diagnosed with CLTI. Before the procedure, all patients underwent ankle-brachial index (ABI), pain (VAS score), and Doppler assessment. Balloon angioplasty +/- stenting was performed depending on lesion morphology and length of occlusion. The follow-up assessments of similar physiological and hemodynamic parameters were done at 24 hours, 1 month and 3 months post-procedure.

Results:
Mean ABI values increased from 0.44 to 0.91, PSV from 17.69 to 47.66 cm/sec, and pain (VAS) score decreased from 7.26 at baseline to 2.57 by the third month. PSV and ABI score showed maximum improvement just pre and post procedure. Maximum improvement of VAS pain score was seen at 1 month follow up. Stenting, used selectively for longer occlusions, appeared to have better hemodynamic result.

Conclusion:
Balloon angioplasty +/- stenting in CLTI patients significantly improves physiological and hemodynamic parameters and strongly adds to the evidence that it can be used as a limb-saving procedure in patients of CLTI.

Abstract ID – 2.7.057

Early experience from a single centre in rotational atherothrombectomy system using Rotarex in acute and sub-acute peripheral arterial disease.

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Background: Acute and subacute ischemia of lower limbs is associated with high risk of amputation and potential severe life-threatening complications. The Rotarex device, which is a rotational atherectomy tool, offers a minimally invasive approach for debulking and preparing vessels with thrombotic non calcified lesions for further revascularization.

Objective: To evaluate the efficacy and outcomes of rotational atherectomy using the Rotarex device in patients with peripheral arterial disease.

Methods: This retrospective study included 16 patients with symptomatic PAD who underwent rotational atherectomy using the Rotarex device from August 2024 to November 2024. Data collected included patient demographics, lesion morphology and procedural details, including technical success and complications and use of auxillary angioplasty or stenting. Improvement in limb salvage and clinical outcomes were considered.

Results: Rotarex device was used solely in 2 patients (12.5%). Auxiliary angioplasty was done in 10 patients (62.5%) and bailout stenting done in 4 patients (25%). The procedural technical success rate was 93.7%, with an improvement in Rutherford category persisting in 87.5% of the patients after 6 weeks of mean follow-up. The primary patency at 6 weeks was found to be 87.5%. The overall 6 week major adverse events were 6.25%, with no death caused due to the device use.

Conclusion: In most cases, use of Rotarex was capable of precluding and replacing thrombolysis, and reducing the rate of stenting, showing to be an efficient and safe option for treating acute and subacute thrombus-containing occlusive lesions with excellent immediate outcomes.

Abstract ID – 2.7.058

Giant right subclavian artery aneurysm: Endovascular exclusion with stenting and coiling

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Background and Clinical History
47 year old female patient had history of right cervical swelling for which she underwent CT angiography of neck which showed large aneurysm measuring approximately 8x7x6 cm probably arising from right subclavian artery compressing adjacent right vertebral artery and extending into right superior mediastinum. After surgical opinion, plan of endovascular aneurysm exclusion was made.

Procedure
USG guided access of right femoral artery secured with 10 Fr vascular sheath. Left vertebral artery was cannulated using Picard catheter and angiogram showed normal co-dominant cerebral circulation. Right subclavian artery angiogram showed opacification of neck of aneurysm arising from right subclavian artery just distal to origin of vertebral artery. 8 mm x 40 cm coil was deployed at origin of right vertebral artery and 6 mm x 20 cm coil was deployed at origin of right internal mammary artery followed by placement of 13.5 mm x 4 cm covered stent across the neck of right subclavian aneurysm. Balloon stent plasty done with 12 x 4 cm balloon and angiogram showed good flow across stent with no flow into aneurysm and confirmed with doppler. Procedure was uneventful. Follow up CT angiography after 1 week, showed good flow across stent within right subclavian artery with exclusion of flow in right subclavian aneurysm. Patient discharged in stable condition on dual antiplatelet therapy.

Conclusion
Endovascular exclusion of giant subclavian artery aneurysm by stenting and coiling of adjacent branches demonstrates good results without any life threatening complications where surgery is more risky or contraindicated.

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