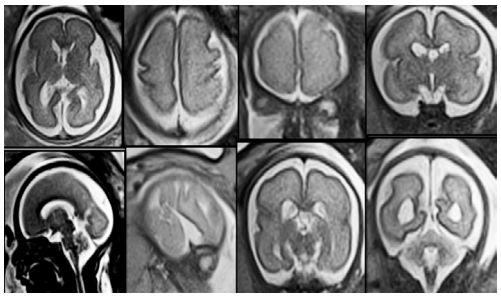
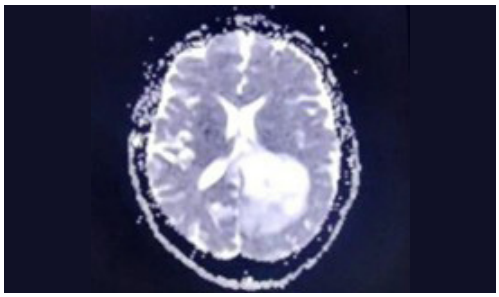
Issue 25 Jul 2025

IRIA Telangana e-Newsletter

Theme: **Obstetric Imaging**





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Indian Radiological & Imaging Association

Telangana State Chapter 2025

IRIA HOUSE, 101, First Floor, 8-2-675/1/A,
Hasna 13th Avenue, Plot No. 16, Road No. 13,
Banjara Hills, Hyderabad - 500 034.
Ph. No: 040-29803049,
Email: iriatschapter@gmail.com
Website: www.iriatelangana.org

From the President's Desk

Dear Esteemed members,

It is with great pleasure that I share this message in the July 2025 issue of the TS IRIA Newsletter.

We are excited to announce that the **TS IRIA State Conference** will be held on **24th August 2025** at **Yashoda Hospital, Hi-Tech City, Hyderabad**. CPD event will include: **Roentgen, Dr. Jaya Narsimlu, and Dr. Ram Mohan Orations, Dr. Mandapal Competitive Paper Presentations, Radiology Quiz, Film Reading Sessions, Invited Talks** by distinguished faculty from Telangana and across India. We are also in the process of securing accreditation from the **Telangana State Medical Council (TS NMC)**.

This year, **competitive paper presentations** are open exclusively to **final-year postgraduate students**, and will take place **one day prior to the conference**. All other postgraduate students are invited to submit abstracts for **oral and poster presentations** for the **78th Annual IRIA Conference in January 2026**, for which submissions are currently open.

I am also pleased to announce a new initiative - the formation of the **TS IRIA Shakti WhatsApp Group**, dedicated to promoting the participation and leadership of **lady radiologists** in Telangana. Dr. Surekha will serve as the Group Coordinator. This platform aims to empower women radiologists in areas such as leadership, research, entrepreneurship, and participation in IRIA/ICR governance. The first **TS IRIA Shakti State CME** will be held on **20th June 2025 at Yashoda Hospital, Somajiguda**, with an all-women panel of expert speakers.

Preparations for the **78th Annual IRIA Conference** are progressing in full swing. We are delighted that **over 100 international faculty members** have confirmed their participation. Key highlights of the scientific program include: **Workshops and Panel Discussions,The Big Fight, How I Do It? , Radiology-Pathology Vignettes, Subspecialty Quizzes and Film Reading Sessions, IRIA/ICR Orations, National and International PG Quizzes, Inter-Society Symposiums and Didactic Lectures**. The **Exhibition Centre**, named after **Dr. Kakarla Subba Rao**, will feature the theme **"4S" - Sir's Collections, Spotters, Signs, and Syndromes**. We encourage all members to contribute exhibits for this unique academic showcase. In addition, a "**Meet the Professor**" session will be organized exclusively for postgraduate students, offering them the opportunity to interact with leading experts in their chosen subspecialties. Further details will be available on the conference website.

To dedicate our full efforts towards the success of the Annual Conference, we have **reduced other academic activities this year and temporarily suspended the KARE program**.

We are pleased to introduce several new features in this edition, including an Editor's Message, subspecialty editorials, a quiz section, and more. These additions aim to enhance the academic value and engagement of our newsletter. I extend my sincere thanks to **Dr. Sudha Bindu** and her editorial team for their dedication and commitment in enhancing the quality of the TS IRIA Newsletter.

Warm regards,

Dr. J. Jagan Mohan Reddy
President
Indian Radiological and Imaging Association
Telangana State Chapter

From the General Secretary Desk

Dear Esteemed Members of IRIA Telangana,

Dear Esteemed Members,

Greetings from the Telangana State Chapter of IRIA.

It gives me immense pleasure to share that the IRIA 2026 Annual National Conference is scheduled to be held at HITEX, Hyderabad from 29th January to 1st February 2026. I earnestly request all Life Members and Provisional Life Members of Telangana to register at the earliest and actively participate in this landmark event.

The abstract submission portal is now open, and I strongly encourage all members—especially Radiology Residents—to take this opportunity to showcase their research by submitting abstracts for paper and poster presentations.

In the lead-up to the national event, TS-IRIA is also organizing the Telangana State Annual Conference 2025 on 23rd and 24th August 2025 at the Yashoda Hospital Auditorium. I request all members to register for this academic gathering, which promises rich scientific content and excellent networking opportunities.

I extend my heartfelt appreciation to all the members of the Organising Committee for their dedicated efforts in making both the state and national conferences a grand success.

Warm Regards,

Dr Krishna Mohan Pottala
General Secretary, IRIA Telangana
Organising secretary IRIA 2026

Message from the Chief Editor

Dear IRIA members,

It gives me immense pleasure to welcome you to this special edition of our Radiology Newsletter, themed around one of the most fascinating and evolving domains of our field - Obstetric Radiology.

We've curated a compelling mix of content to enrich your learning and stimulate academic curiosity:

Editorial: Dr. TLN Praveen sir , the icon in obstetric Radiology has himself agreed to share his valuable insights on the subject and the team is grateful for the kind gesture.

Consultant Article: A senior radiologist, Dr. Madhavi Nori shares in-depth perspectives on the advances in obstetric imaging - fetal MRI.

Interesting cases: though not specific to the theme, the cases are very meticulously sent by the students and their mentors.

Journals Not to Miss: A roundup of recent, practice-changing publications in obstetric imaging that you should definitely keep on your radar.

Case of the Newsletter: A fascinating obstetric case that challenges diagnostic reasoning and showcases the subtleties of fetal imaging.

Rad Bites: Bite-sized pearls on topics like placenta previa, fetal anomalies, and more - perfect for a quick revision or reference.

National Conference Updates: to warm up the ground as a preparation to all , we have highlighted the hard work and ongoing work towards the January 2026 conference .

I would like to thank all the contributors - faculty, residents, and editorial team members - for their time, effort, and passion in bringing this themed issue to life. It is our hope that each page will inform, inspire, and reaffirm your commitment to excellence in radiology.

As always, your feedback and suggestions are most welcome. Let's continue this journey of learning together-because every image tells a story, and in obstetrics, it's the story of life itself.

Warm regards,

Dr.T. Sudha Bindu
Chief Editor

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BEYOND THE IMAGES: CHALLENGES AND OPPORTUNITIES IN FETAL ULTRASOUND

The Evolving Role of Ultrasound in Fetal Imaging

Fetal ultrasound has come a long way from its humble beginnings. Initially developed as an 'A'-mode scan for early fetal heart detection, it evolved to include cephalometry and placental localization. In 1961, Ian Donald introduced the Biparietal Diameter (BPD) measurement, and in 1968, Stuart Campbell published a landmark paper detailing improved fetal cephalography using both 'A' and 'B' modes.
These early milestones laid the groundwork for a revolution in prenatal imaging, one that has dramatically transformed how we assess fetal health and development.

A Personal Journey in Ultrasound: From Innovation to Integration

My journey in diagnostic and therapeutic ultrasound began in 1985 - a time when the technology was still emerging in many parts of India. Static ultrasound was first introduced to Hyderabad in 1983 at the Institute of Genetics, Ameerpet. The following year, real-time ultrasound made its debut at Osmania General Hospital's Nephrology Department. By 1985, real-time fetal ultrasound was introduced into clinical practice in Hyderabad, marking the start of my professional path.

I was privileged to receive extensive exposure to fetal and gynecological ultrasound at the Government Maternity Hospital, Hyderabad. This journey, though fulfilling, was not without challenges. It took nearly a year to educate referring clinicians about the clinical relevance of ultrasound. Constant effort was required to convince patients of its safety, especially in fetal evaluation. We conducted numerous CMEs to create awareness, explain indications, and promote its clinical utility.

Technological and clinical advancements followed steadily:

- **1987**: Introduction of Doppler for fetal hemodynamics
- **1989**: Implementation of endo-cavity transducers
- **2000**: Adoption of volume rendering for 3D/4D applications

In the early days, fetal scans involved cumbersome water-path transducers that were mechanically rotated over the abdomen. A breakthrough came in 1988 when Philips introduced linear handheld transducers, improving ease and accuracy.

The early 2000s saw rapid technological evolution, with enhanced image resolution, color Doppler, spectral waveform analysis, and, importantly, volume data acquisition for multiplanar imaging. These innovations, along with advances in genetics and molecular biology, enabled invasive fetal sampling techniques such as chorionic villus sampling, amniocentesis, and cordocentesis. More recently, fetal MRI has become a valuable complementary tool in complex fetal assessments.

The Scope of Fetal Ultrasound Today

Fetal ultrasound now plays a critical role at every stage of pregnancy, including:

- Confirming pregnancy and viability
- Locating gestation and determining chorionicity/amnioticity in multiples

- Predicting complications like pre-eclampsia
- Detecting structural abnormalities
- Monitoring fetal growth and well-being

Its impact on prenatal care is transformative. But with progress comes complexity, and today's radiologists play a far broader role than just interpreting images.

Challenges Beyond the Images

Communication Complexities

- **Interdisciplinary Dialogue**: Effective communication with referring clinicians to decode complex fetal conditions.
- **Parental Counseling**: Explaining findings compassionately and discussing genetic implications, diagnostic options, and potential outcomes.
- **Collaborative Practice**: Integrating inputs from maternal-fetal medicine specialists, genetic counselors, and pediatric surgeons.
- **Ethical Boundaries**: Providing balanced information without assuming the role of decision-maker - recognizing we are advisors, not arbiters.

Managing Expectations

- Adapting workflow and time management to allow for thorough evaluation.
- Incorporating clinical history and maternal risk factors into scan interpretation.

Opportunities Beyond Image Interpretation

- Key Clinical Partner: Contributing meaningfully to diagnostic and therapeutic planning.
- Outcome Influencer: Playing a direct role in optimizing perinatal outcomes.
- Educator and Mentor: Sharing experience through teaching and guiding younger colleagues.
- Innovator: Exploring the use of AI for reporting assistance, anomaly detection, and data analysis.

Supporting Families Through the Process

- Clear, Compassionate Communication: Helping parents understand findings in lay terms.
- Alleviating Anxiety: Offering reassurance when possible and guiding them through uncertainty.
- Patient-Centered Approach: Recognizing the emotional weight of prenatal findings and responding with empathy.

Advancing Research and Knowledge

- Identifying gaps in knowledge through clinical practice.
- Contributing to evolving diagnostic criteria.
- Participating in research, protocol development, and innovation in fetal medicine.

Strategies for Success in a Changing Landscape

Lifelong Learning

- Stay abreast of the latest technologies and clinical protocols.
- Hone communication and counseling skills.
- Engage in ongoing training, CMEs, and workshops.

Patient-Centric Practice

- Allow adequate time for patient interaction.
- Foster a supportive environment during scans.
- Understand and respect the emotional toll on parents.

Embracing the Future of Fetal Ultrasound

As radiologists, we must embrace an increasingly complex and vital role in fetal care. Beyond capturing and interpreting images, we are communicators, collaborators, and compassionate caregivers.

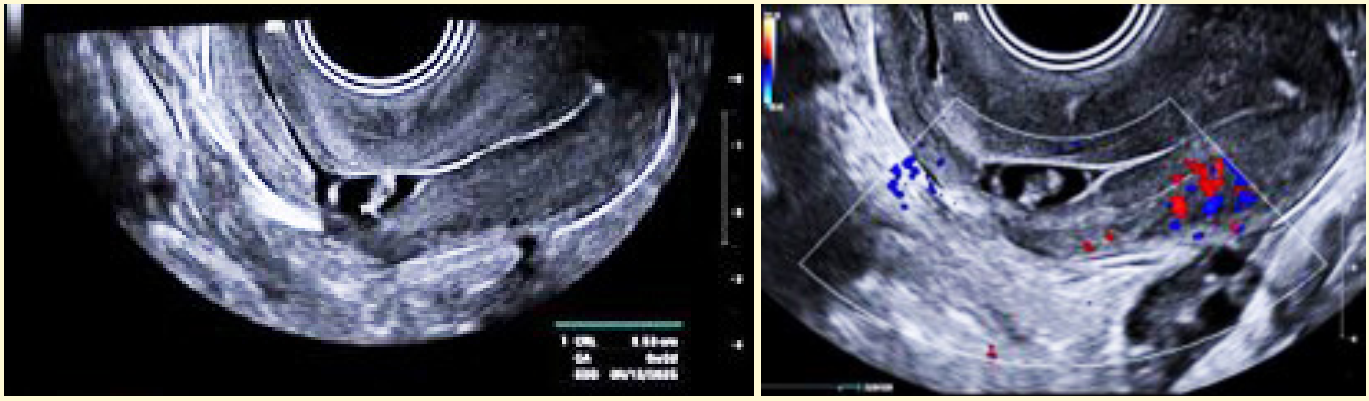
Fetal ultrasound is no longer just a diagnostic tool - it is a cornerstone of modern prenatal care.

Let us continue to grow, innovate, and lead in shaping the future of this dynamic field.

CASE OF THE NEWS LETTER

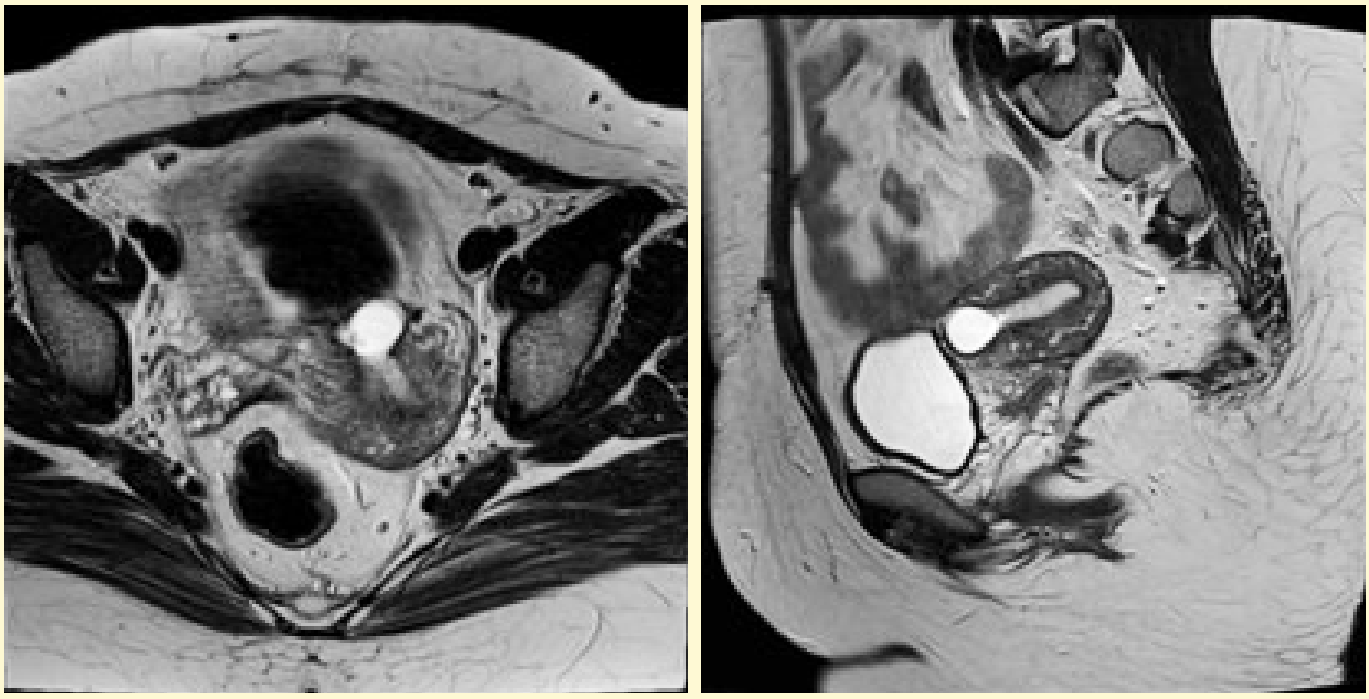
A 20year old female G2P1L1 presented with 6 weeks of amenorrhea and pain abdomen for 3 days to OBG department in Mamata Academy of Medical Sciences. UPT was positive with Beta hCG>1000ng/ml. She had previous caesarian section.

Patient was sent for routine ultrasound to date the pregnancy. After USG, MRI was done to confirm the diagnosis.



Transvaginal ultrasound images of the pelvis and MRI pelvis images.

DIAGNOSIS PLEASE?

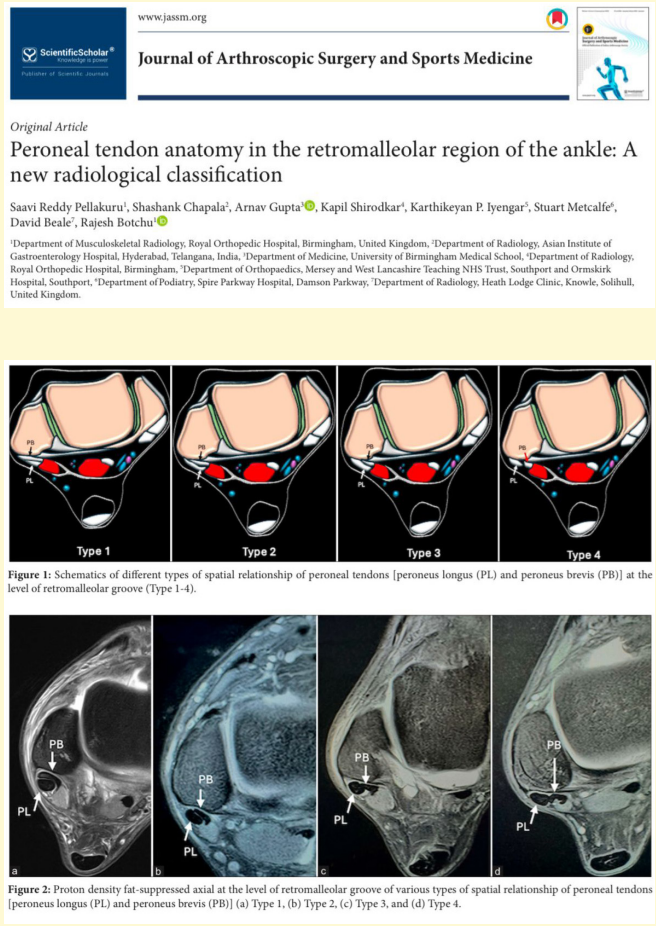


Dear members, Please encourage your Staff, Students and Friends
to register early for National Conference of IRIA 2026
Go to the website

www.iria2026.com

to Register

ACHIEVEMENTS



www.jassm.org

Journal of Arthroscopic Surgery and Sports Medicine

Original Article

Peroneal tendon anatomy in the retromalleolar region of the ankle: A new radiological classification

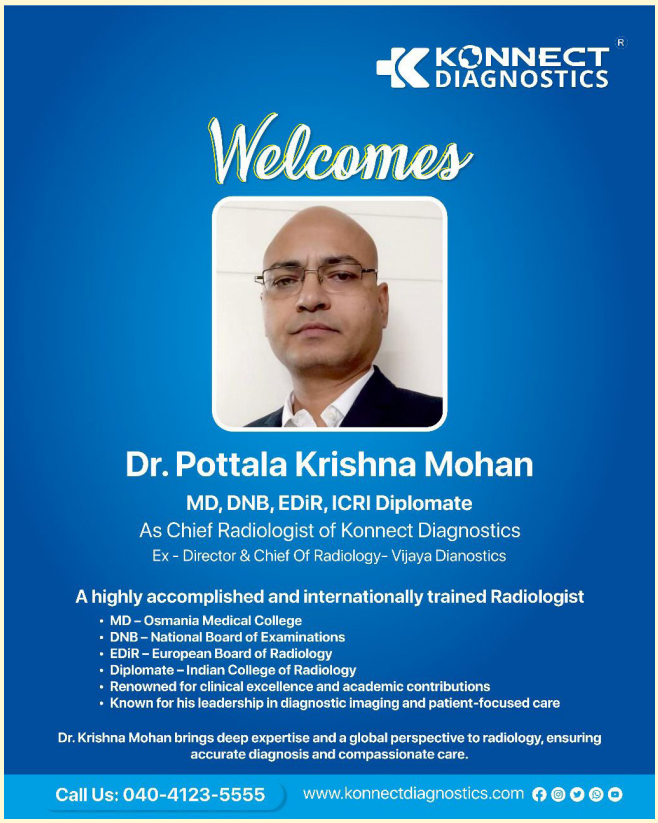
Saavi Reddy Pellakuru[1], Shashank Chapala[2], Arnav Gupta[3], Kapil Shirodkar[4], Karthikeyan P. Iyengar[5], Stuart Metcalfe[6], David Beale[7], Rajesh Botchu[1]

[1]Department of Musculoskeletal Radiology, Royal Orthopedic Hospital, Birmingham, United Kingdom, [2]Department of Radiology, Asian Institute of Gastroenterology Hospital, Hyderabad, Telangana, India, [3]Department of Medicine, University of Birmingham Medical School, [4]Department of Radiology, Royal Orthopedic Hospital, Birmingham, [5]Department of Orthopaedics, Mersey and West Lancashire Teaching NHS Trust, Southport and Ormskirk Hospital, Southport, [6]Department of Podiatry, Spire Parkway Hospital, Damson Parkway, [7]Department of Radiology, Heath Lodge Clinic, Knowle, Solihull, United Kingdom.

Figure 1: Schematics of different types of spatial relationship of peroneal tendons [peroneus longus (PL) and peroneus brevis (PB)] at the level of retromalleolar groove (Type 1-4).

Figure 2: Proton density fat-suppressed axial at the level of retromalleolar groove of various types of spatial relationship of peroneal tendons [peroneus longus (PL) and peroneus brevis (PB)] (a) Type 1, (b) Type 2, (c) Type 3, and (d) Type 4.

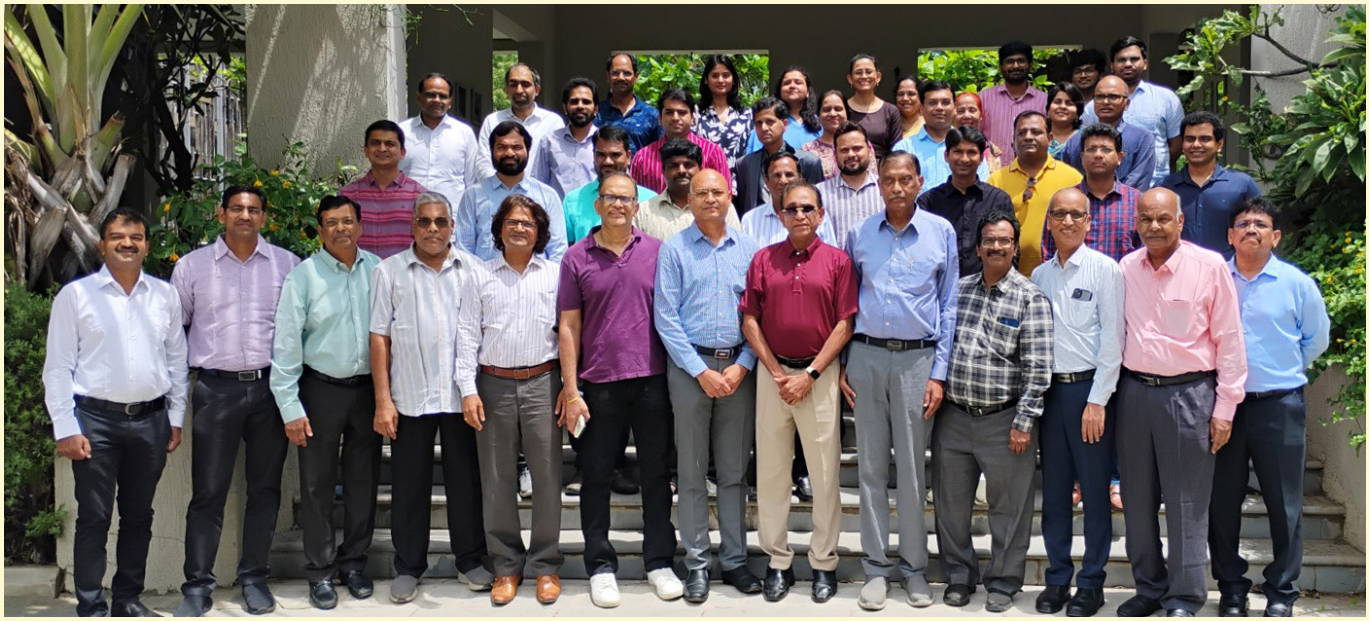
Congratulations to Dr. Shashank Chapala for another publication and new classification Peroneal tendons



Congratulations and Best wishes to Dr. P. Krishna Mohan for joining as Chief Radiologist of Konnect Diagnostics

Congratulations to Dr. Sikander Shaik for being awarded honorary fellowship by Royal College of Radiology, London

78th ANNUAL CONFERENCE OF IRIA 2026 UPDATES



The arrangements for the forthcoming 78th Annual Conference of IRIA scheduled from 29th January to 1st February 2026 at HITEX are progressing well. 3rd Organizing Committee Meeting was held on 22nd June 2025.

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ARTICLE

Dr. Nori Madhavi
Director, Madhavi Scan Centre, Consultant Radiologist, Vista Imaging, Banjara Hills, Hyderabad.

FETAL MRI IN CLINICAL PRACTICE: EXPANDING THE SCOPE OF PRENATAL IMAGING

Introduction

Fetal magnetic resonance imaging (MRI) has become a well-established adjunct to ultrasound in prenatal care, particularly for detailed evaluation of central nervous system (CNS) abnormalities. While structural anomalies are detected by ultrasound in 3–5% of pregnancies, MRI offers multiplanar, high-resolution imaging and optimal tissue characterization, making it invaluable when ultrasound findings are inconclusive or when further anatomical detail is required before medical decision-making (1,2). This article reviews the evolution, techniques, safety, indications, and clinical impact of fetal MRI, with illustrative examples of normal anatomy and the spectrum of CNS abnormalities.

Why Fetal MRI in the Era of Advanced Ultrasound?

Ultrasound remains the primary screening tool for fetal anomalies due to its accessibility, safety, and real-time imaging. However, its limitations become evident in cases of maternal obesity, oligohydramnios, complex fetal positions, inconclusive findings, or when detailed CNS or anatomic evaluation is needed (1,3,4). Fetal MRI addresses these challenges by providing superior soft tissue contrast, multiplanar imaging, and a broader field of view, making it indispensable for deep phenotyping, surgical planning, and multidisciplinary counselling (1,3).

Historical Perspective and Technical Advances

Early fetal MRI was hampered by fetal motion and long scan times. The introduction of ultrafast T2-weighted sequences (e.g., HASTE/SSFSE) revolutionized the field, enabling acquisition of 20 slices in 20 seconds and effectively freezing fetal motion without sedation (1,3). Modern MRI now incorporates advanced techniques such as diffusion tensor imaging (DTI), MR spectroscopy, and quantitative mapping, allowing both structural and emerging functional assessment in utero (5).

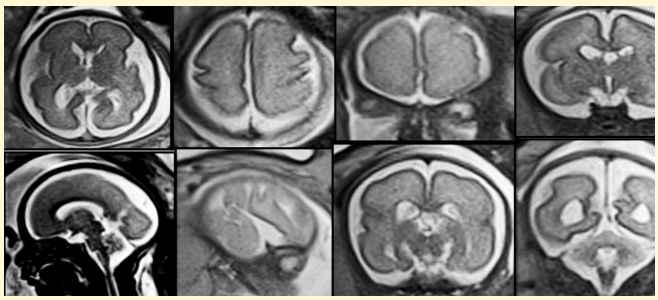


Figure l. Ultrafast T2-weighted sequence demonstrating clear fetal brain anatomy. Axial : at the level of ventricle & Vertex . Sag T2w: midline and parasagittal Four T2-weighted coronal slices parallel to the brain stem :l. At the anterior part of the frontal lobes, 2. At the level of the third ventricle, 3. At the level of the temporal horns, 4. At the level of the ventricular atria

Safety of Fetal MRI

Current evidence supports the safety of MRI during pregnancy, with no proven short- or long-term adverse effects reported for either mother or fetus when standard, non-contrast protocols are followed (1,3). Regulatory guidelines ensure specific absorption rate (SAR) is kept well below thresholds that could cause harm, typically limiting

maternal temperature increases to less than 0.5°C (1,5). Gadolinium-based contrast agents are not recommended unless absolutely essential, as they cross the placenta and have been associated with potential risks (1,5). Acoustic noise is attenuated by amniotic fluid, and no increased risk of neonatal hearing impairment has been observed (1,5).

Performing Fetal MRI: Techniques and Protocols

- **Field Strength**: Most examinations are performed at 1.5T, balancing image quality and safety. 3T is increasingly used with careful SAR monitoring (5).
- **Patient Positioning**: Supine or left lateral decubitus to maximize comfort and reduce venous compression; feet-first entry minimizes claustrophobia (1).
- **Key Sequences**:

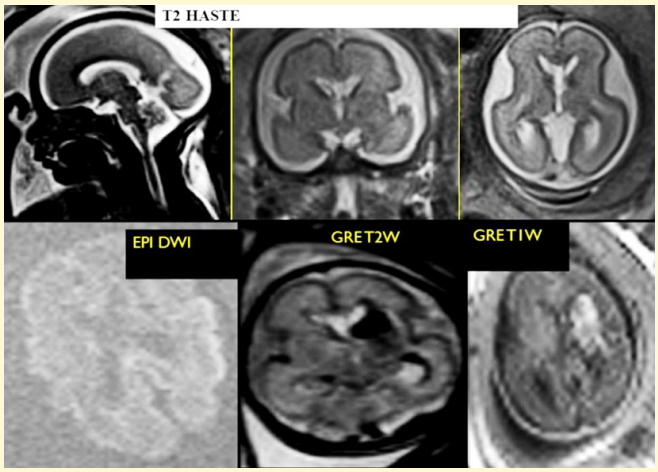


Fig 2 Key Sequences :T2-weighted ultrafast GRE,Diffusion-weighted imaging (DWI) GRE/SWI for blood products

- T2-weighted ultrafast (HASTE/SSFSE)
- T1-weighted GRE
- Diffusion-weighted imaging (DWI)
- GRE/SWI for blood products (3,6)
- **Multiplanar Imaging**: Axial, sagittal, and coronal planes relative to fetal anatomy (1,3).
- **Scan Duration**: Comprehensive studies are typically completed in 20–30 minutes in experienced centers (1,3).
- **No Sedation**: MRI is performed without maternal or fetal sedation (1,3).

Challenges:

Fetal motion, maternal factors (obesity, claustrophobia), and the need for expert interpretation remain limiting factors. Accessibility and structured reporting may also vary.

Structured Reporting in Fetal MRI

Structured reporting ensures clarity, consistency, and comprehensive communication among multidisciplinary teams (7). Key elements include patient and exam details, technical parameters, systematic organ review, and a summary with key findings, differential diagnosis, and recommendations (7).

Understanding Normal Fetal Anatomy

Accurate interpretation of fetal MRI requires gestational age-specific anatomical knowledge, supported by advanced quantitative atlases and motion-corrected sequences (5,8). Modern protocols allow reliable identification of key sulci (e.g., Sylvian fissure) by 18–20 weeks, with progressive gyration and myelination following predictable patterns (5,8).

Figures 3—8. Illustrative display of normal fetal brain MRI detailing cerebral parenchyma, myelin, ventricular system and midline structures, posterior fossa, and cortical sulcation across landmark gestational ages.

Fig 3 NORMAL FETAL BRAIN :Cerebral Parenchyma

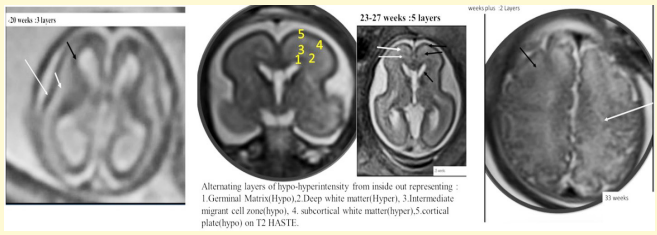
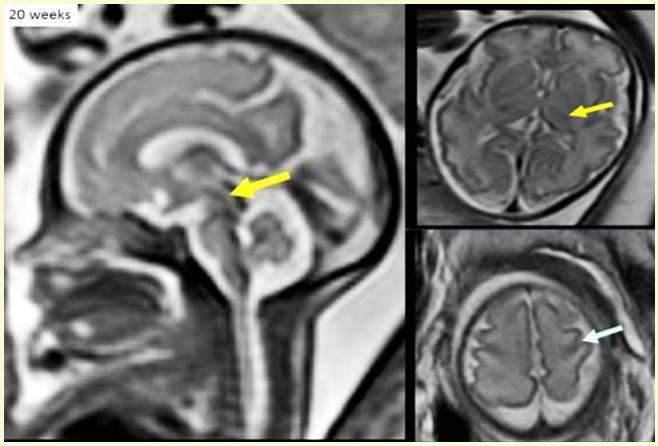
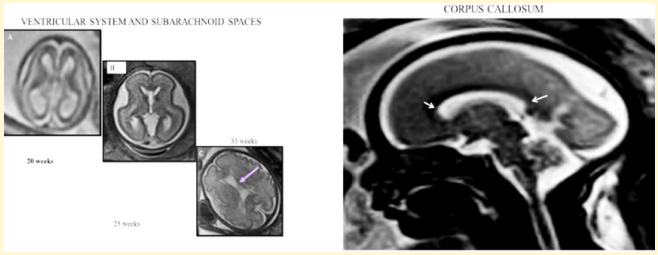


Fig 4.NORMAL FETAL BRAIN :Myelin



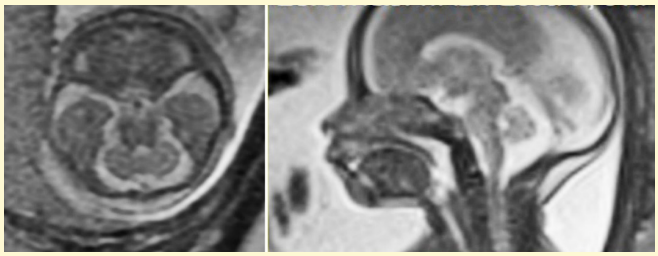
Myelin *can be seen as early as 22 weeks and follows a predictable pattern and sequential pattern starting from caudal to rostral, sensory prior to motor, In Telencephalon from central sulcus towards poles and from posterior to anterior*

Fig 5 NORMAL FETAL BRAIN :Ventricular system and midline structures

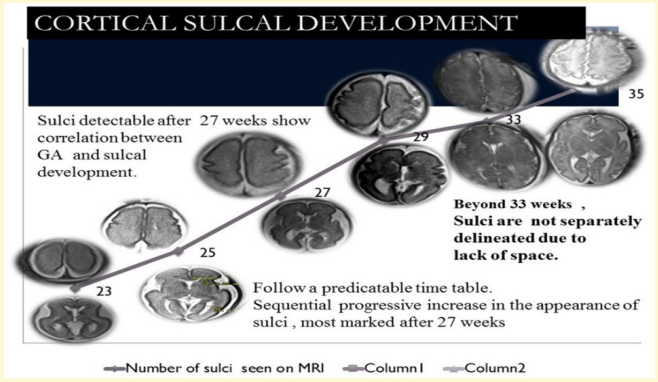


The fetal cerebral lateral ventricles show physiologic disproportionate enlargement of the occipital horns in relation to the frontal homs that remains until 23 Weeks GA ; thereafter they gradually become smaller . The standard measurement of the cerebral ventricle is obtained in an axial plane through the atrium. Ventriculomegaly is diagnosed when the width of atria measures more than IO mm The corpus callosum is seen on the midline sagittal T2-WI as a C-shaped hypointense structure at the superior margin of the cavum septum pellucidum

Fig 6 NORMALITY OF POSTERIOR FOSSA on routine examination is based on 3 CRITERIA: (Morphologic and Biometric



I .Normal cerebellum anatomy; 2. Hemispheres + vermis without ant communication between 4th ventricle [cisterna magna; 3.Cerebellar biometry (TCD); 4.RetrocerebelIar fluid space (Cistema Magna)<IOmm. Fetal MRI can determine the global volume of the posterior fossa and show the position of the tentorium cerebelli. It allows for characterization of midline anatomy for morphology and morphometry .Key landmarks of vermis :The fastigium and superior fissure can be seen .Measurements can be made and compared with established norms



[Fig.7] Cortical sulcation follows a highly organized and predicatable time table with Sequential progressive increase in the appearance of sulci most marked after 27 weeks. Sulci detectable after 27 weeks show best correlation with gestational age. Beyond 33 weeks cortical sulci are not delineated clearly due to lack of subarachnoid space

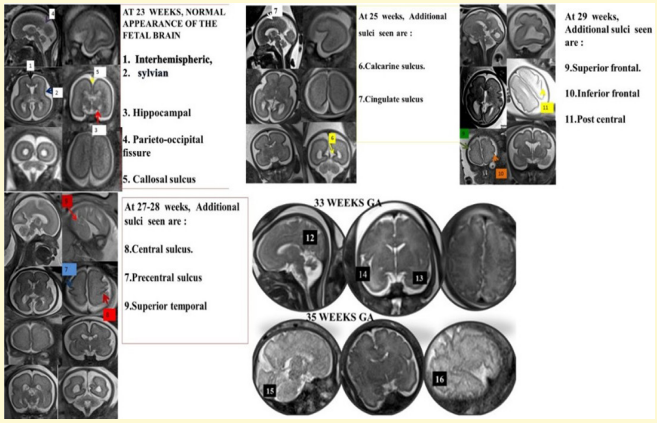


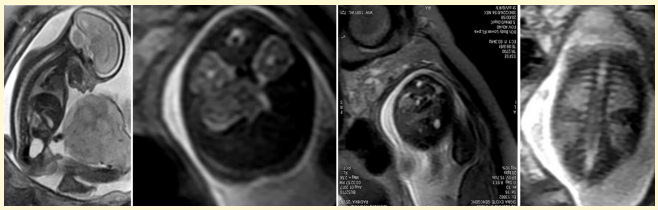
Fig 8. MR Biometry shows discrepancy of 3 weeks with the anatomical appearance and is well established with nomograms published in the literature .The MR biometry in at specific gestational ages of & 35weeks are shown.

Early in gestation up to 22 weeks, cerebral parenchyma shows three layers on T2W sequences: the germinal matrix appearing as a dark band that outlines the lateral ventricles, the cortical plate as a dark band, and the intermediate layer as relatively bright. The germinal matrix appears as on T2-weighted MR images

The multilayered MR pattern of the brain parenchyma corresponds to cellular migration

After 27 weeks, the germinal matrix disappears resulting in the differentiation of only two layers as is seen on post-natal imaging hypo intense cortex and hyper intense unmyelinated white matter

Fig 9 Normal Fetal Spine



The spinal canal is hyperintense in T2-weighted sequences because it is filled with cerebrospinal fluid. The spinal cord can be identified as a hypointense structure inside the spinal canal. The spinal cord disappears below the fetal kidneys

Defining Indications: When Is Fetal MRI Needed?

Fetal MRI is indicated in a wide range of scenarios, particularly when USG findings are uncertain, incomplete, or suggest complex anomalies (2,3,4). Institutional experience includes, but is not limited to, the following:

Illustrative Indications Table

Category	Example Indication	MRI Value	Figure
CNS	Ventriculomegaly	Detects associated malformations, assesses severity and cortical development	Fig. 10,11
CNS	Corpus callosum dysgenesis	Confirms diagnosis, finds co-anomalies, assesses prognosis	Fig. 12
CNS	Dandy-Walker malformation	Precise vermian/cerebellar assessment, differentiates from variants	Fig. 13
CNS	Cerebellar hypoplasia	Defines cerebellar hemisphere size and fissure patterns	Fig. 14
CNS	Joubert syndrome	Identifies molar tooth sign, evaluates cerebellar vermis	Fig. 13
CNS	Pontocerebellar hypoplasia	Assesses pontine atrophy and cerebellar measurements	Fig. 14
CNS	Cotwin demise with porencephaly	Detects hemorrhage, ischemic changes, white matter injury	Fig. 15
CNS	Lissencephaly (high-risk pregnancy)	Evaluates sulcation patterns, cortical formation after 20 weeks	Fig. 16
CNS	Polymicrogyria (previous affected child)	Detects cortical malformations, assesses recurrence risk	Fig. 17
CNS	Abnormal head biometry (microcephaly)	Evaluates brain structure despite size abnormalities	Fig. 18
CNS	Abnormal head biometry (macrocephaly)	Differentiates causes, assesses brain parenchyma	Fig. 19
Spine	Myelomeningocele	Defines level, associated CNS findings	Fig. 20
Spine	Vertebral anomalies	Superior diagnostic accuracy (84% vs 47% for ultrasound)	Fig. 20

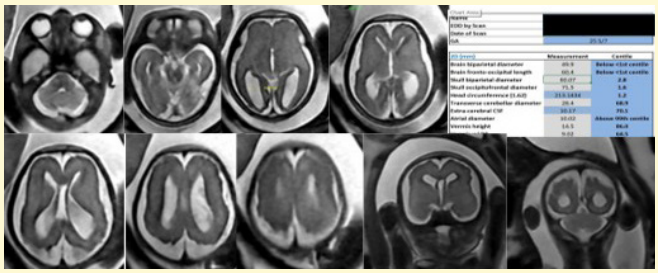


Fig 10

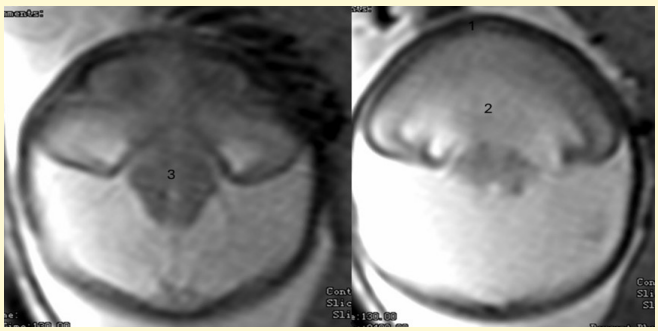


Fig 11: 24 WEEKS GA: HOLOPROSENCEPHALY Single large posteriorly located ventricle (holoventricle), Complete fusion of the thalami. No attempt at formation of the interhemispheric fissure. Absence of corpus callosum, falx cerebri, optic tracts, and olfactory bulbs

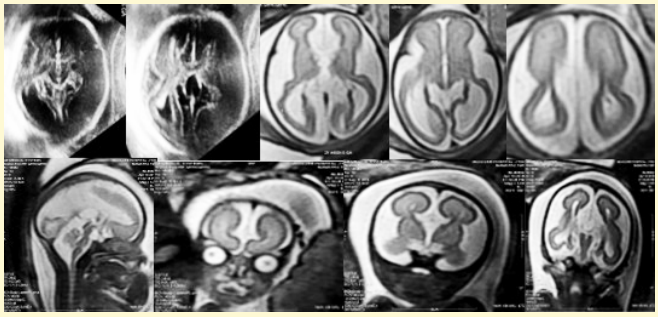


Fig 12

Fig 13.Posterior fossa malformations: Keyhole Sign :Cystic : Free Communication With 4th Ventricle

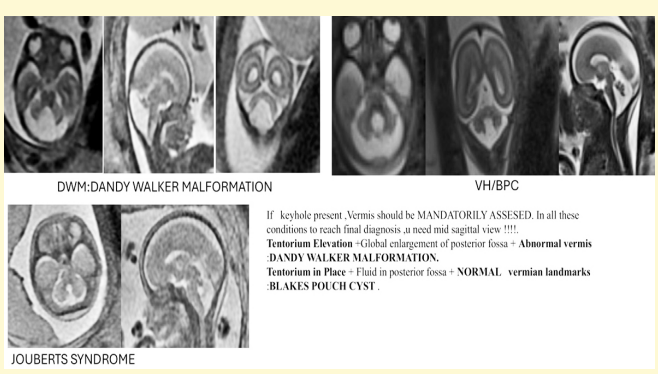


Fig 14.Posterior fossa malformations : NO KEYHOLE SIGN :

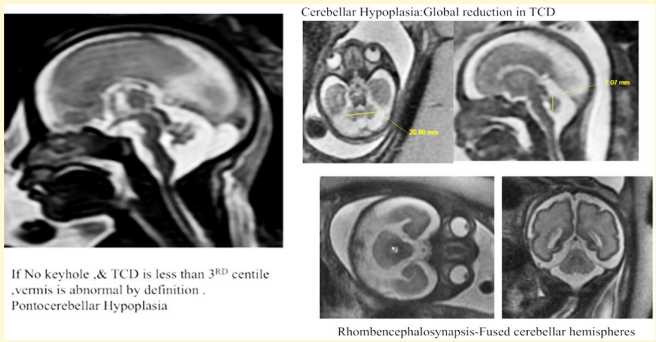


Fig 15. Cotwin Demise Porencephaly - Detects hemorrhage, ischemic changes, white matter injury and dates them .

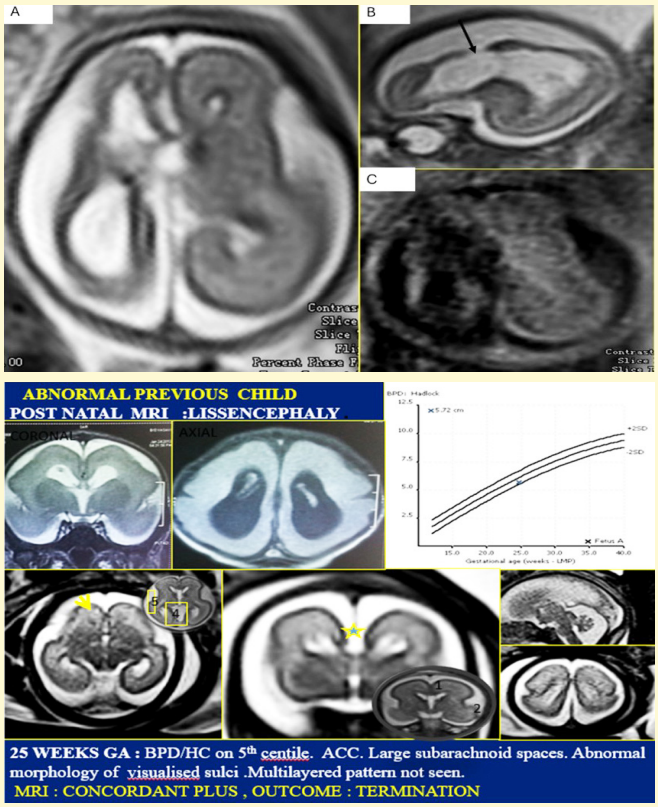


Fig 16

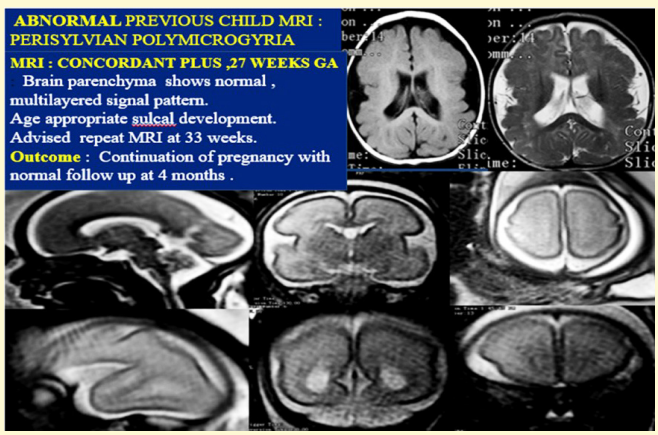


Fig 17

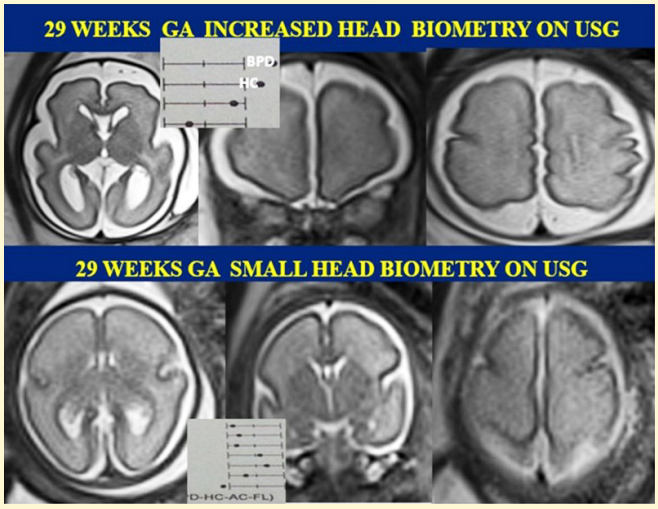


Fig 18

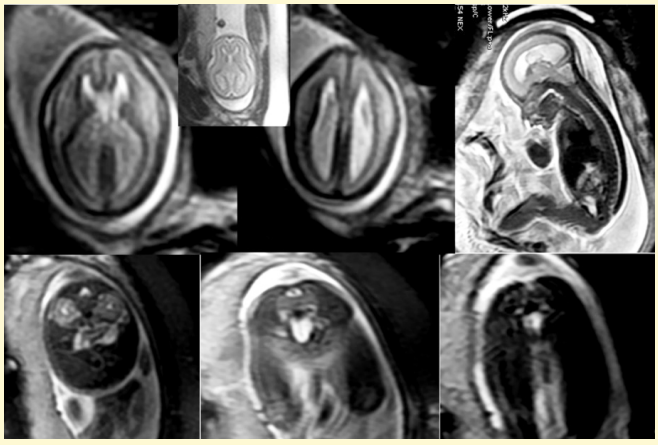


Fig 19. Supratentorial compartment: T2-weighted images show asymmetry in the lateral ventricles with Mild ventriculomegaly(LV measurement at atrium measures I I -12mm).Characteristic angled ventricles and lemon-shaped skull are seen. Posterior fossa: Small posterior fossa with a low attachment of the tentorium and low torcula. The brainstem appears 'pulled' down with obliterated cisternal magna Spine : Spina bifida aperta with Myelocele in sacral region

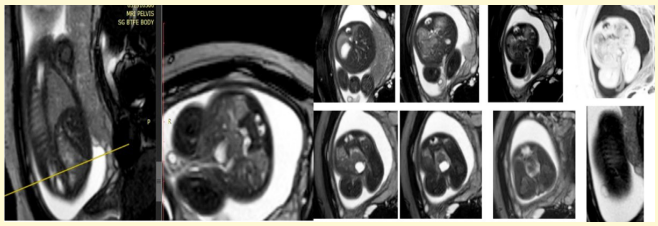


Fig20 MRI can identify topography and contents of sacs (ability to detect split cord malformations 24-25 weeks GA Irregularity of spine in upper lumbar region suggestive of kyphoscoliosis on USG for further characterization. Distortion at the Dorsolumbar region of the spine was demonstrated Segmentation anomaly involving distal dorsal and upper lumbar vertebrae best evident on coronal and axial plane. Evidence of a hypointense band seen intraspinally at the level ofL2 level seen extending out from the spinal canal up to the spinal lamina. Intraspinally, the cord is positioned in spinal canal , Morphology of termination is abnormal with low lying tethered cord . Two hemi sacs appreciated in upper lumbar spine . There is skin covered subcutaneous SOL 12 x 9mm at the site of bony bar in subcutaneous plane .

Key MRI Advantages:

- CNS anomalies: Superior soft tissue contrast, assessment of cortical development, and detection of associated malformations (1,3,4)

Scope and Clinical Impact: Concordance with Ultrasound

Fetal MRI findings are interpreted in the context of prior USG and classified as:

- Concordant: MRI confirms USG findings (e.g., isolated ventriculomegaly)
- Concordant Plus: MRI confirms and adds new, clinically relevant details (e.g., detects hemorrhage, infection, or additional malformations)
- Discordant: MRI refutes or significantly alters the USG diagnosis (e.g., reclassifies a suspected mass or detects a different anomaly) (1,2,6)

Recent studies show:

- MRI provides additional information in 37–50% of cases (1,2,6).
- MRI and USG are concordant in 25–55% of cases (1,2,6).
- MRI can change the diagnosis or management in up to 40% of CNS anomaly cases (1,2,6).

Figures 21-23. Illustrative cases: (a) Concordant – ventriculomegaly, (b) Concordant Plus – corpus callosum agenesis with associated anomalies, (c) Discordant – reclassification of anomalies.

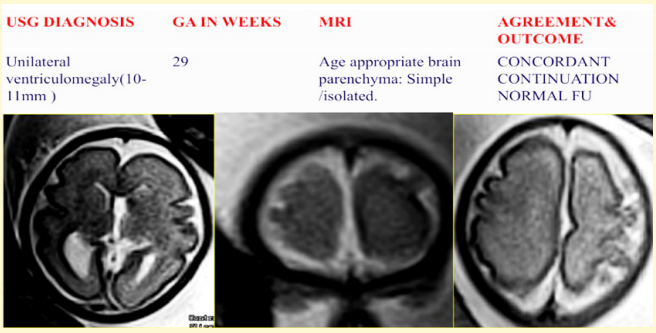


Fig21

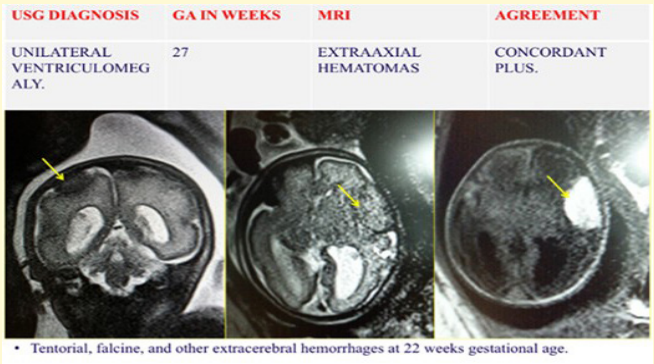


Fig22

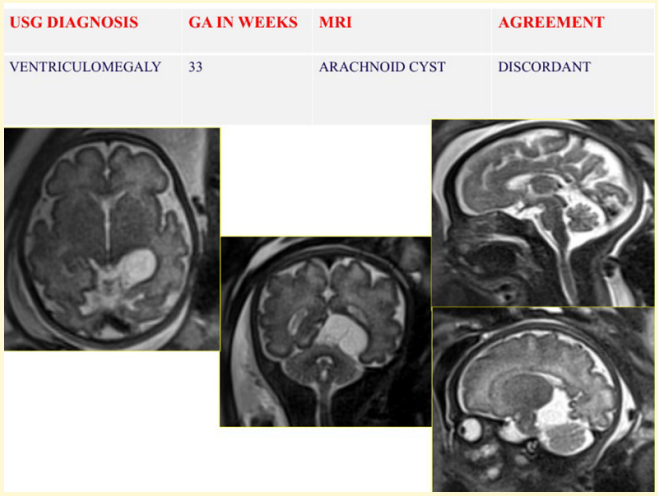


Fig23

Conclusion

Fetal MRI has transformed prenatal diagnosis by providing high-resolution, multiplanar imaging that complements and enhances the capabilities of ultrasound. Its greatest impact is seen when USG is limited or equivocal, and where precise anatomical detail is critical for counselling and management. As technology and expertise continue to advance, fetal MRI will play an increasingly central role in personalized, multidisciplinary prenatal care (1,2,3,5,6).

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INTERESTING CASES

Glioblastoma, IDH-Wildtype (WHO CNS5, 2021): MRI Diagnosis in a Case of Ring- Enhancing Lesion

Co-Author: Dr. Sikandar Shaikh, Professor and HOD,
Department Of Radio Diagnosis Shadan Institute Of Medical Sciences , Hyderabad

Dr. Ayesha Maliha Nida
2nd Year Resident
Shadan Institute of Medical Sciences, Hyderabad

INTRODUCTION

Ring-enhancing brain lesions present a diagnostic challenge, with causes ranging from neoplastic to infectious, demyelinating, and vascular. Glioblastoma, the most aggressive primary brain tumor, is a key differential due to its imaging features and poor prognosis. The 2021 WHO CNS5 classification identifies Glioblastoma, IDH-wildtype as a distinct entity based on molecular markers. MRI, including diffusion-weighted and contrast-enhanced sequences, remains essential for diagnosis and preoperative evaluation.

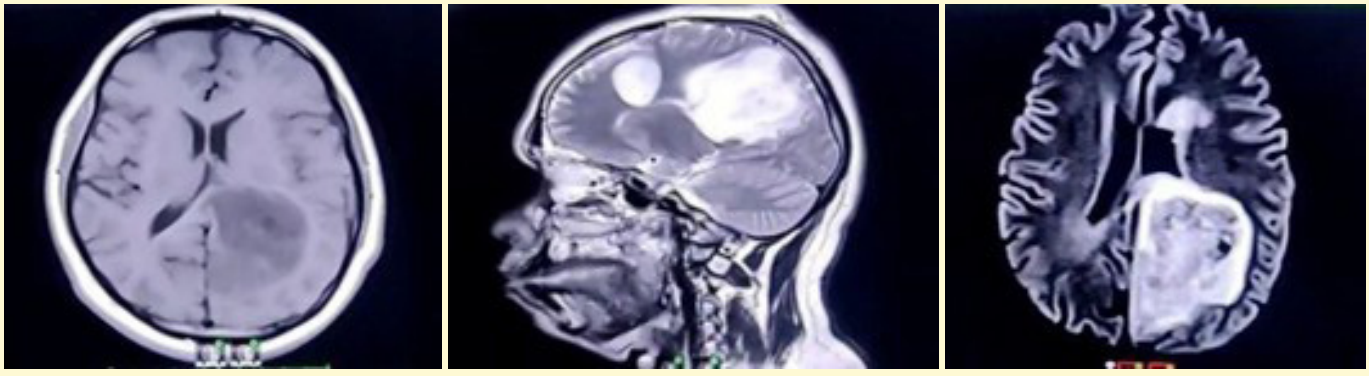
CLINICAL DETAILS

A 34 -year-old male presented with complaints of progressive headache, nausea, altered sensorium, and new-onset generalized seizures. Neurological examination revealed rightsided hemiparesis and signs of raised intracranial pressure, including papilledema. There was no known history of immunosuppression, prior malignancy, or chronic infection. Routine laboratory tests and systemic evaluations were unremarkable.

IMAGING FINDINGS

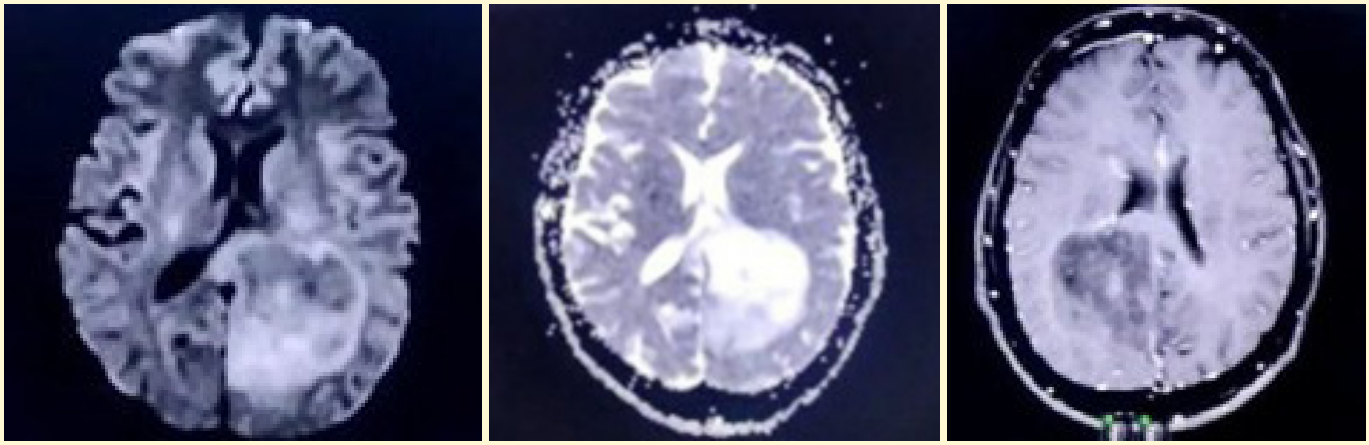
Imaging Modality: MRI Brain with standard and advanced sequences.

- **T1-weighted imaging (T1W)**: A hypointense lesion noted in the left parietotemporal region.
- **T2-weighted imaging (T2W)**: Heterogeneously hyperintense lesion with surrounding vasogenic edema extending into adjacent white matter.
- **FLAIR**: Marked hyperintensity in the lesion and perilesional white matter edema with mass effect on the ipsilateral lateral ventricle and mild midline shift.



- **Diffusion Weighted Imaging (DWI)**: Central hyperintensity within the lesion suggesting diffusion restriction.
- **Apparent Diffusion Coefficient (ADC)**: Corresponding hypointensity on ADC map confirming true diffusion restriction, indicative of high cellularity.
- **Post-contrast T1-weighted imaging**: Irregular, thick-walled, heterogeneously enhancing ring lesion with a central non-enhancing necrotic core. The enhancement pattern was asymmetric and infiltrative in morphology.

These findings were highly suggestive of a high-grade glial neoplasm.



DISCUSSION

Glioblastoma, IDH-wildtype, is the most aggressive primary brain tumor in adults. On MRI, it typically appears as a large, heterogeneously enhancing mass with irregular ring enhancement, central necrosis, extensive perilesional vasogenic edema, and diffusion restriction—reflecting its hypercellularity and rapid infiltration across white matter tracts. According to the 2021 WHO CNS5 classification, diagnosis requires either histological features like necrosis or microvascular proliferation, or molecular alterations such as TERT promoter mutation, EGFR amplification, or concurrent chromosome 7 gain and chromosome 10 loss (+7/−10). Advanced imaging techniques, including MR spectroscopy and perfusion, may show elevated choline and increased relative cerebral blood volume (rCBV), further supporting the diagnosis.

Differential diagnoses include solitary metastasis, which can appear similar but is often multifocal and less infiltrative; cerebral abscess, which shows smooth, thin ring enhancement with central diffusion restriction, usually in immunocompromised patients; CNS lymphoma, which typically enhances homogeneously and lacks necrosis; and tumefactive demyelination, often seen in younger individuals, showing incomplete or open-ring enhancement. While imaging strongly suggests the diagnosis, histopathological and molecular confirmation remains essential for accurate classification and management.

CONCLUSION

MRI findings of a left parieto-temporal irregular ring-enhancing lesion with central necrosis, significant perilesional edema, and diffusion restriction are most consistent with Glioblastoma, IDH-wildtype per 2021 WHO CNS classification. Radiological evaluation provides a high level of diagnostic confidence; however, definitive diagnosis relies on histopathological and molecular analysis. Prompt identification of glioblastoma is critical for guiding neurosurgical, oncological, and supportive care decisions.

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Type 7 Choledochal Cyst : Case Rarity and Clinical Insights

Authors: Dr.R.Sai Kumar[1], Dr.Shiva Prasad[2], Dr.K.Pushpatejasri[3], Dr. Pradhyumna[4], Dr. Vijay Pavan[5], Dr. Nadeem Ahmed[6]
Affiliation: [1,2]JR-3, [3]JR-2, [4]JR-1, [5]Associate Professor, [6]Professor and HOD, Osmania Medical College.

Dr. R. Sai Kumar
JR - 3,
Osmania Medical college

INTRODUCTION :

Choledochal cysts, congenital anomalies of the biliary tract, are predominantly classified under the **Todani system (Types I–V)**. However, emerging case reports and improved imaging techniques have brought to light **atypical variants** not encompassed by this classification. One such rare entity is the **Type 7 choledochal cyst -** a biliary anomaly so uncommon that only a **handful of cases have been documented worldwide**.

CLINICAL DETAILS:

- A 13-year-old female presented with abdominal pain for the past 8 days. The pain is sudden in onset, colicky in nature, and intermittent. She has a history of similar abdominal complaints 5 years ago, which were managed conservatively. Prior outside USG suggested a complex hepatic cystic lesion/ hydatid cyst. Patient was sent for further evaluation with CECT ABDOMEN and MRCP.

IMAGING FEATURES:

- Repeat ultrasound done at our department showing well defined mixed echogenic lesion in segment 4 with hyper echoic and anechoic areas and no colour uptake on doppler , no IHBD
- On CECT, evidence of well defined hypodense lesion noted in segment 4 perihilar region at branching of right and left portal vein and abutting them and showing few areas of hyperdensities within and no obvious enhancement on post contrast , no calcifications , no other obvious findings in abdomen - Possibilities considered are - **COMPLEX CYSTIC LESION OF LIVER WITH HEMORRHAGE WITHIN**.
- On MRCP,evidence of well defined T2 heterogeneously hyperintense lesion with hypointense dependent areas which were T1 hyperintense noted in segment 4a of liver abutting right,left branches of main portal vein,RHD,LHD,CHD with no obvious ductal communication detected .Hepatobiliaryspecific contrast MRI was suggested for further evaluation.
- TRIPHASIC MRI ABDOMEN WITH HEPATOSPECIFIC CONTRAST AGENT GADOBENATE DIMEGLUMINE(MULTIHANCE) WITH BILIARY PHASE IMAGING done at 40 MIN demonstrated pooling of contrast into the cystic lesion.
- Operative findings revealed a large cystic lesion at confluence of right and left hepatic duct, with intraluminal calculi .Cholecystectomy with cyst removal and hepatojejunostomy was done –
- FINAL DIAGNOSIS- **Intra Hepatic Choledochal Cyst**

DISCUSSION:

Type 7 choledochal cysts are cystic dilatations of intrahepatic bile ducts, particularly those located in segments IVb and V of the liver, near the confluence of the right and left hepatic ducts. Unlike Types II and III, these cysts do not arise from the common bile duct, and they lack the diffuse involvement of Caroli disease (Type V). Their atypical location and non-communicating nature often make them a diagnostic dilemma. Due to their rarity, Type 7 cysts are often misdiagnosed — commonly mistaken for simple liver cysts, biliary cystadenomas, or intrahepatic biliary dilatations. Imaging modalities such as MRCP and contrast-enhanced MRI play a crucial role in diagnosis, helping define the cyst's relationship to the biliary tree. Still, in many reported cases, a

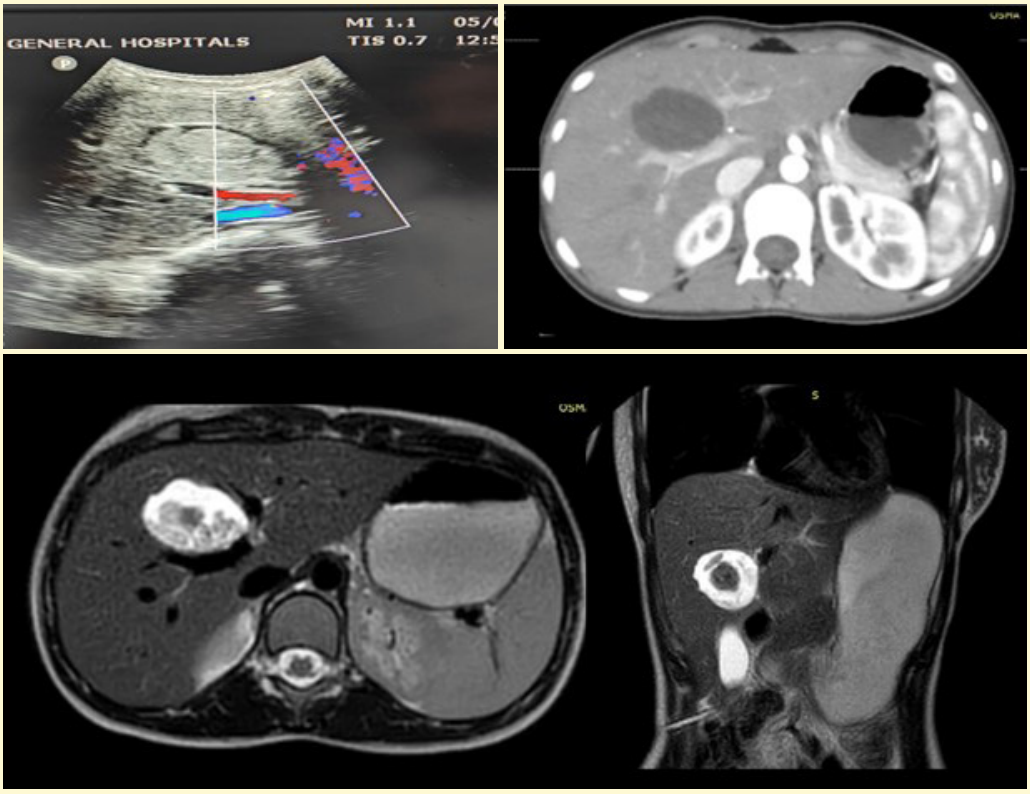

Figure 1. USG image showing well defined mixed echogenic lesion in segment 4 with hyperechoic and anechoic areas and no colour uptake on doppler 2. CECT image showing well defined hypodense lesion noted in segment 4 perihilar region at branching of right and left portal vein and abutting them and no obvious enhancement on post contrast.3 and 4 T2WI axial and coronal images showing well defined T2 heterogeneously hyperintense lesion with hypointense dependent areas

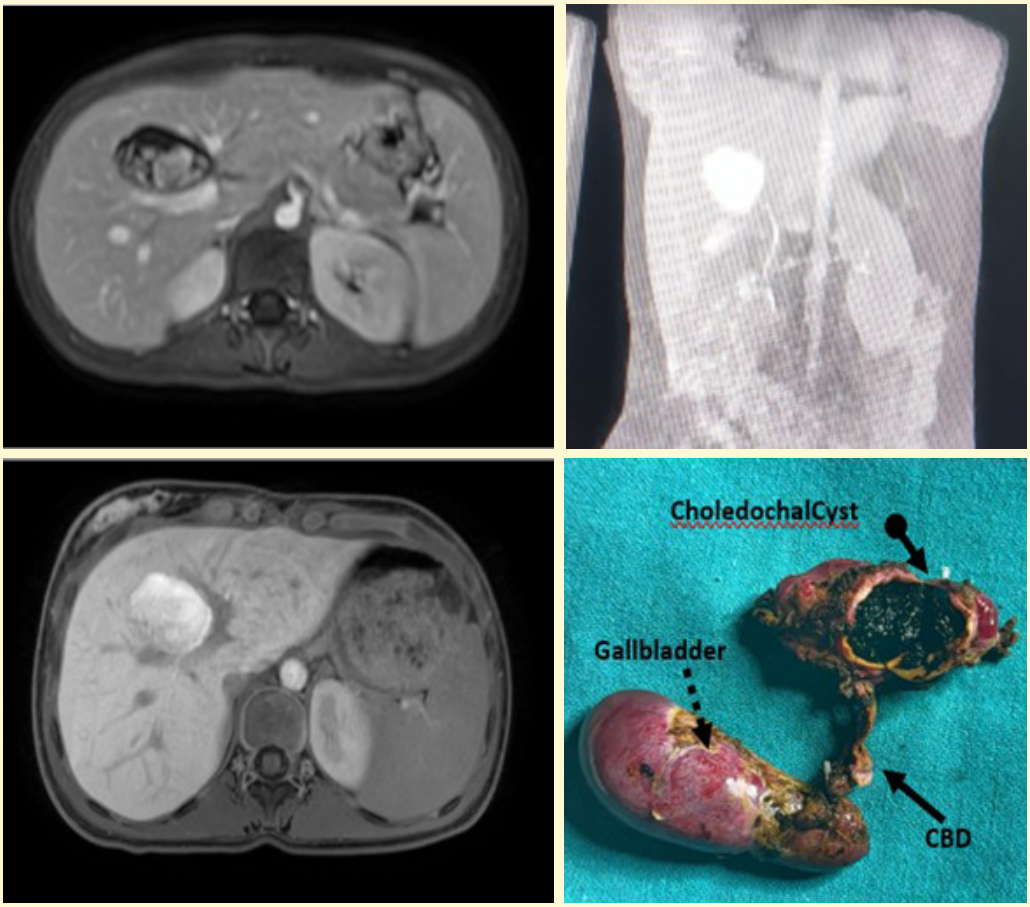

Figure 1.Axial T1W image in portovenous phase after hepatospecific contrast (GADOBENATE DIMEGLUMINE) injection. 2 and 3 . T1W image showing contrast pooling after 40 mins. 4 Postoperative images of the lesion.

definitive diagnosis is often made intraoperatively or via histopathology. To date, fewer than 10 cases of Type 7 choledochal cysts have been published in the medical literature, with cases scattered across countries including India, Korea, and the United States. This underscores the importance of reporting and documenting each new case, as every addition enriches the limited global understanding of this entity. Surgical excision remains the mainstay of treatment, with hepatic segmentectomy or cyst excision depending on the cyst's location and involvement. Importantly, surgical management aims not only to relieve symptoms but also to prevent complications like cholangitis, stone formation, or even malignant transformation, which is a known risk in choledochal cysts.

Conclusion:

Type 7 choledochal cysts represent a rare but significant diagnostic entity. Their subtle radiologic findings, atypical location, and overlap with other hepatic cysts call for a high index of suspicion. Through increased awareness and careful documentation, we can ensure earlier diagnosis, appropriate intervention, and ultimately, better outcomes for patients with this elusive biliary anomaly.

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MDCT IN ACUTE ABDOMEN – ILLUSTRATION OF TWO CASES

Dr. Harsha Vardhan[1], Dr. Sarika Peddi[2], Dr. Surya Ramachandra Varma Gunturi[3], Dr. Jeyan[4], M Dr. Venu Madhav Thumma[5], Dr Sujata Patnaik[6]

JR1, JR2, Dept of Radiodiagnosis, Additional professor3, SR 4, Associate professor 5,Dept of Surgical Gastroenterology, Professor of Radiodiagnosis6 ,Nizam's Institute of Medical Sciences, Hyderabad

Dr. Harsha Vardhan
Junior Resident
Dept of Radiodiagnosis, NIMS, Hyderabad

Multi-Detector Computed Tomography (MDCT) is a key diagnostic tool for acute abdomen. The invaluable information provided by MDCT helps in management planning. The main differentials are acute pancreatitis, perforation of hollow viscus., ruptured aneurysm and acute mesenteric ischaemia. Gastrointestinal perforation may arise from peptic ulcer disease, inflammatory disease, foreign body, diverticulitis, iatrogenic or neoplastic causes. Small bowel obstruction can sometimes lead to perforation. Assessment of the presence, cause, location of perforation is essential for correct management. Clinical and laboratory are supplementary to radiological findings for diagnosis. We report two illustrative cases to highlight the usefulness of MDCT in acute abdomen.

Case- 1

A 49-year-old female, a known case of carcinoma cervix diagnosed 8 years ago. Recently she received radiation therapy and presented with acute abdominal pain, fever, vomiting off and on for last 10 days. There was no passage of stool since 2 to 3 days. Contrast-enhanced CT revealed interloop collection, adhesion of small and large bowel with contrast leak in right iliac fossa and pockets of free air. Collapsed terminal ileum with thickened wall with adjacent fat stranding suggestive of ileal perforation with peritoneal thickening and minimal free fluid were noted. The rectum and sigmoid colon showed circumferential wall thickening (Figure 1A & B). On emergency surgery, dense adhesion of small bowel loops, omentum and parietal wall was noted. There was cocoon formation of small bowel loops which was adherent to rectum, sigmoid colon as shown in CT scan. Contained feculent collection was noticed in right iliac fossa and pelvis with perforation of terminal ileum 5cms proximal to IC Valve. Proximal 120cm small bowel was healthy and distal 50 cms showed radiation enteritis. Adhesion-lysis and lavage with normal saline was performed and unhealthy bowel was resected. ileostomy was done.

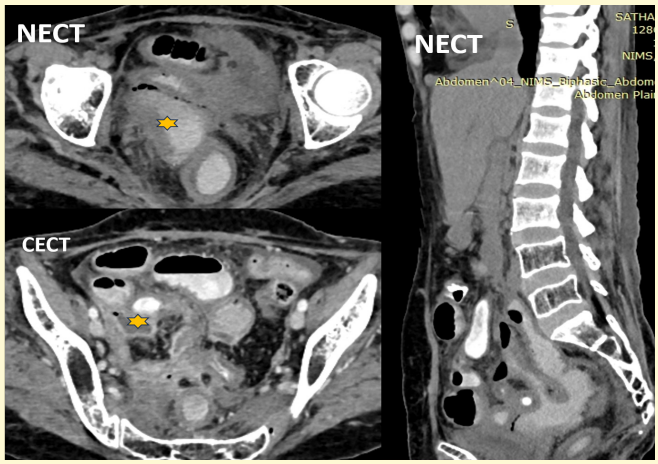

Figure-1A: Axial non-contrast and contrast enhanced CT and non-contrast sagittal reconstructed images with positive oral contrast, reveals loculated collection opacified with oral contrast in right side of pelvis and, multiple loculated collections (indicated with stars). Sagittal reconstruction shows adhesions of multiple small bowel loops and rectum, sigmoid colon

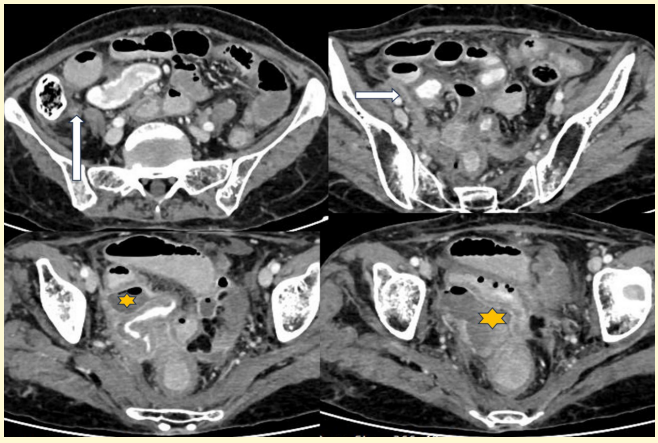

Figure- 1B: Contrast enhanced axial images through pelvis reveals collapsed minimally enhancing terminal ileum (white arrow) with adjacent fat stranding, peritoneal thickening, minimal paracolic fee fluid. The distal ileal loops, sigmoid colon and rectum and bladder wall are mildly thickened. Adhesions of bowel loops and loculated fluid collections are indicated by stars

Case- 2

A 36-year-old female patient with no comorbidities presented to EMD with pain, vomiting (bilious fluid with blood) following suicidal ingestion of a corrosive agent (toilet cleaner). There was no history of fever, loose stools, or shortness of breath. Upper gastro-intestinal endoscopy revealed ulceration and necrosis of gastric wall. CT scan revealed thickening without any enhancement of the gastric wall and D1, D2 duodenum with perigastric stranding (Figure-2). Intraoperatively there was necrosed stomach, duodenum (D1, D2) with sealed off perforation. There was mass formation at head of pancreas with involvement of D3, stomach, omentum, and colon. D2 and proximal jejunum were odematous. Immediately gastrectomy, ampullary jejunostomy and feeding jejunostomy was done to salvage the patient.

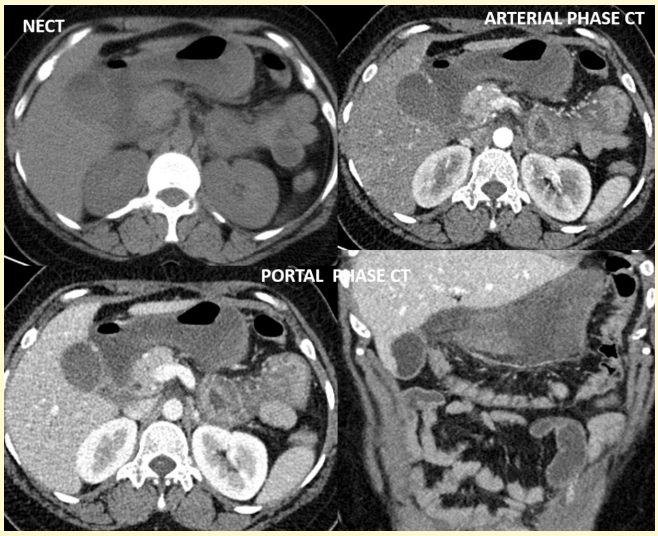

Figure- 2: 36F –Non contrast and contrast enhanced axial CT scan and coronal reconstructed images reveal non enhancement of gastric and duodenal(D1,D2)wall in a case of corrosive injury suggestive of gangrenous bowel. Minimal perigastric stranding and no fluid collection or free air

DISCUSSION

CT Scan signs of perforation are extraluminal gas and detection of bowel wall discontinuity. Indirect signs include bowel wall thickening, abnormal enhancement, adjacent loculated fluid collection, fat stranding, and pockets of gas adjacent to perforation. Discontinuity of bowel wall appears as low attenuation cleft that runs perpendicular to gastric wall. On MDCT, in <50% cases it can be appreciated with MPR. Usually in gastric and duodenal peroration free air gets collected in supra-mesocolic compartment whereas small or large intestinal perforation results in air in infra-mesocolic compartment.

In case one, the cause of perforation secondary to obstruction was due to radiation enteritis and cocoon formation and in case 2 corrosive injury with ischaemia resulted in intestinal necrosis. Abdominal cocoon formation is a rare peritoneal disease. It is characterised by small bowel obstruction caused by all or part of small bowel covered by dense fibrous membrane. It may be primary or secondary to history of abdominal surgery, long peritoneal dialysis, malignant tumors, abdominal tuberculosis, autoimmune disease, liver transplantation, drug induced due to excessive collagen formation and fibrosis [1]. Past hysterectomy may be the primary cause of abdominal cocoon in our case. Radiation enteritis is also a cause of intestinal stricture and bowel obstruction leading to rupture. MDCT is the choice modality to diagnose abdominal cocoon. It appears as a conglomeration of bowel loops encased by dense capsule. Tethered small intestines with retraction of mesentery may give cauliflower or gingerbread-man signs on CT. Preoperative diagnosis of abdominal cocoon is a challenge. On surgery it is usually detected and confirmed.

Corrosive poisoning is common in India either as accidental or suicidal in etiology. The degree, site depends on the concentration, site, and duration of exposure. Acids cause greater damage to stomach, alkali damage oesophagus by coagulative necrosis and liquefactive necrosis. In acute phase there is arteriolar or venous thrombosis with subsequent ischemia and mucosal sloughing followed by bacterial invasion. Perforation occurs if ulceration extends beyond muscular plane [2]. Acid causes pyloro-spasm leading to pooling of acid in stomach. Alkalis cause liquefactive necrosis leading to greater penetration and perforation.

Upper gastrointestinal endoscopy was done within 4 days to detect superficial and deep ulceration as in our case. CT scan was done to know viability of gastric wall which is based on wall enhancement. Edema of wall, peri gastric stranding and enhancement indicate superficial injury. There was no enhancement of gastric wall or D1, D2 segment suggestive of gangrene. The perforation got sealed spontaneously. Hence it was not detected on CT. When there is no enhancement of bowel wall, it

indicates transmural involvement [3]. Low grade injury is managed conservatively, and deep injury needs surgical resection/ repair.

CONCLUSION

MDCT is the choice modality to detect the site of bowel perforation accurately and can detect the viability of bowel. Small and sealed perforation may be missed.

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TELANGANA STATE CHAPTER OF IRIA
TENTATIVE ACADEMIC SCHEDULE OF 2025

S.No.	Date and Month	Program	Venue
1	July	9th KARE	Cancelled
2	August 23 & 24	11th Annual Telangana State IRIA Conference 2025	Yashoda Hospital, Hitech city, Hyderabad
3	September	Monthly Meeting	To be decided
4	October 180 minutes	Webinar on Head & Neck	Saturday/Sunday Dr. K.P. Reddy/Dr. Varsha Joshi
5	November 8/11/2025	IDOR with Monthly Meeting	To be decided

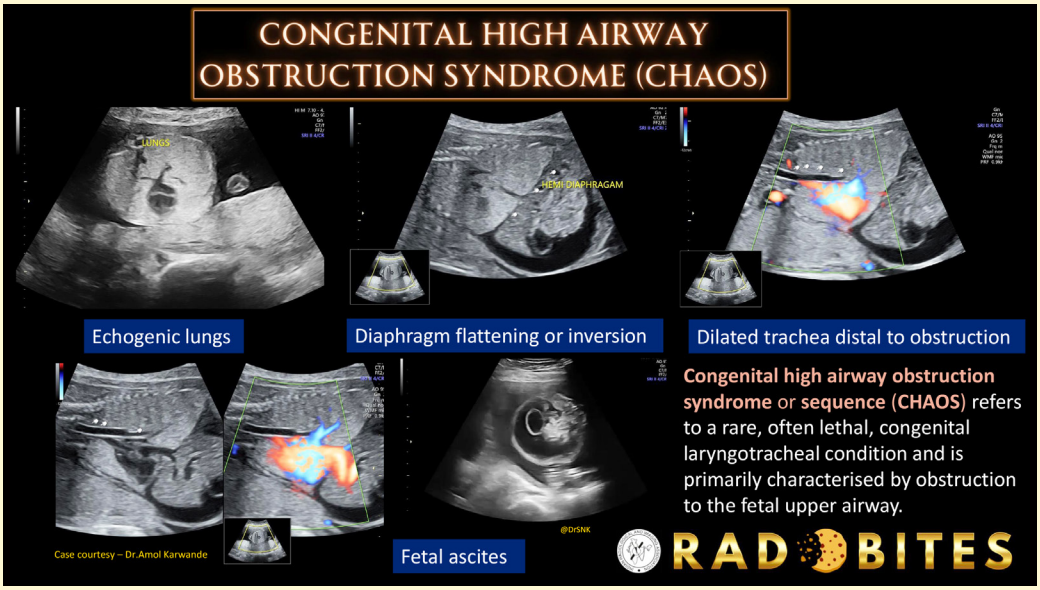
Dear members, Please encourage your Staff, Students and Friends
to register early for National Conference of IRIA 2026
Go to the website

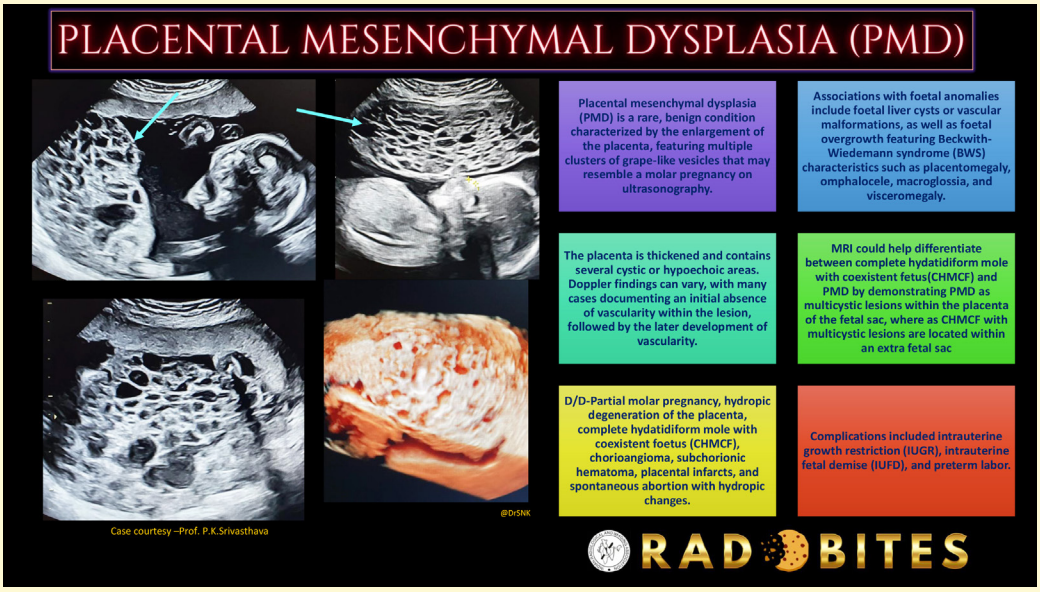
www.iria2026.com

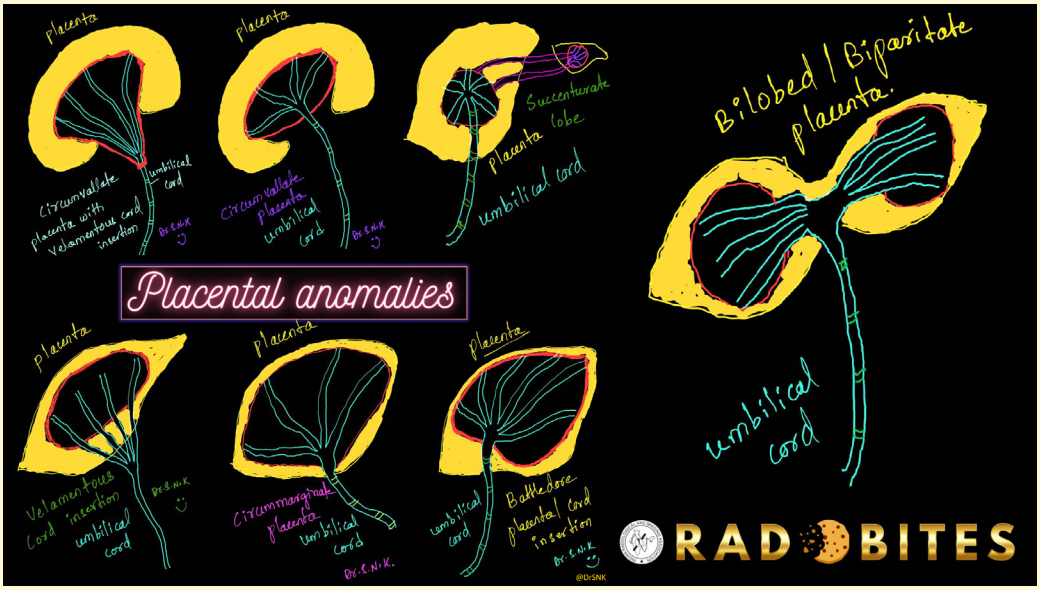
to Register

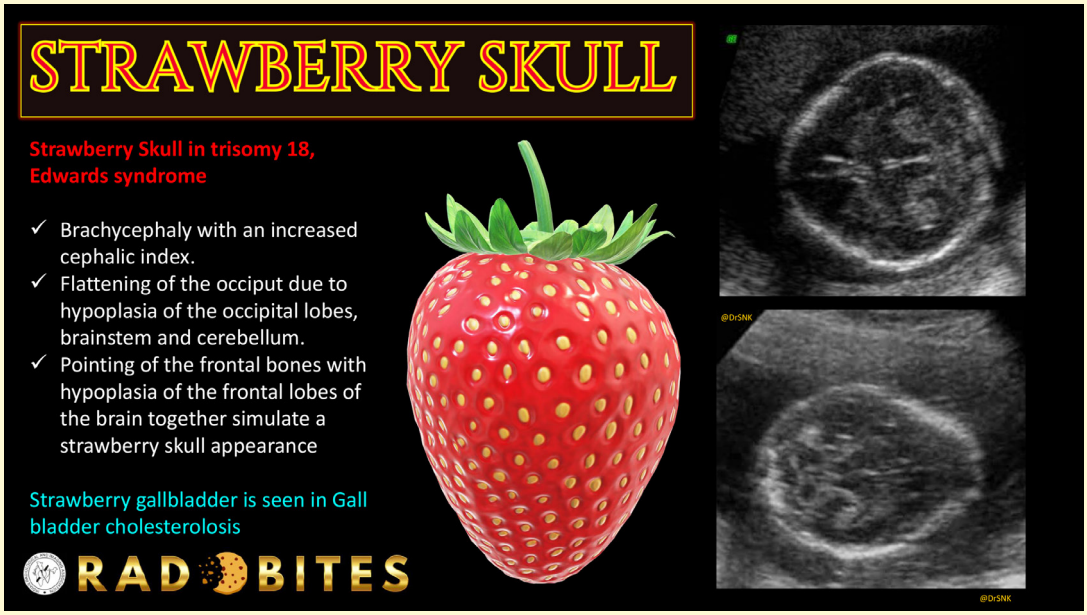
RAD BITES

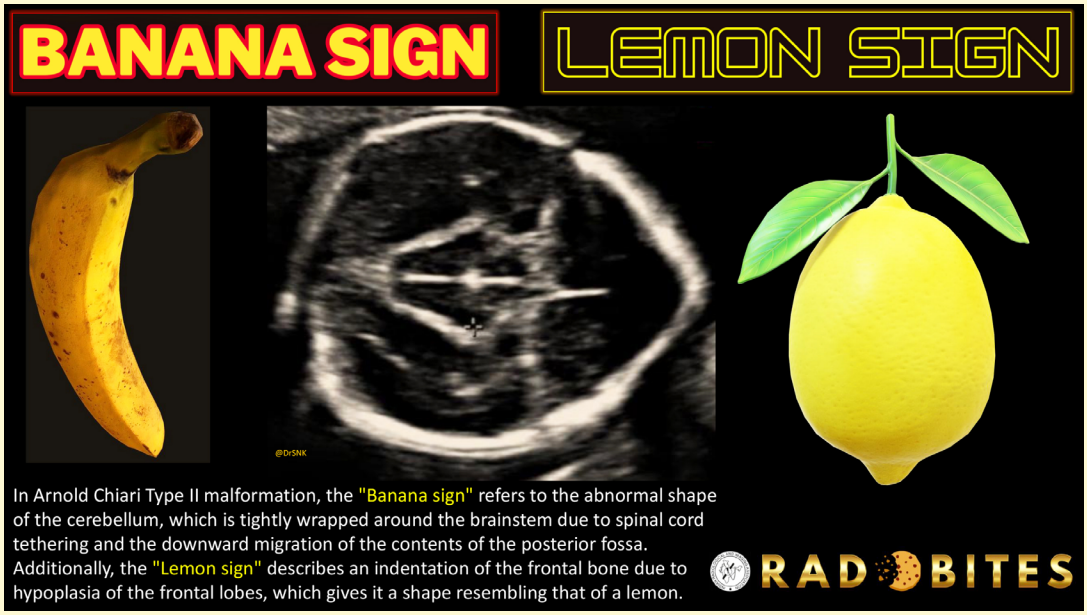
by **Dr. Siripuram Naveen Kumar**











IRIA Telangana State Chapter:
www.iriatelangana.org

IRIA National Chapter:
www.iria.org.in

ICRI (Indian College of Radiology and Imaging):
www.icri.co.in

AOSR (Asian Oceanian Society of Radiology):
https://theaosr.org

AMS (Asian Musculoskeletal Society):
www.asianmsk.org

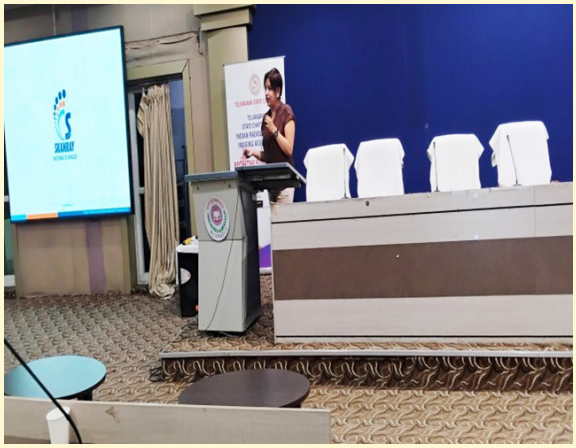
ACADEMIC ACTIVITIES OF IRIA TS CHAPTER

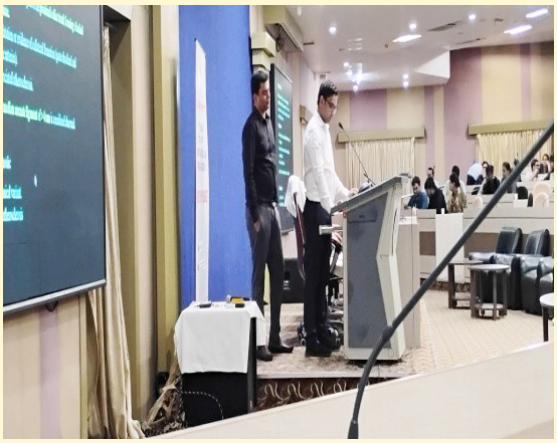
Monthly Meeting on 17th April- 2025 at Yashoda Hospital, Secundrabad





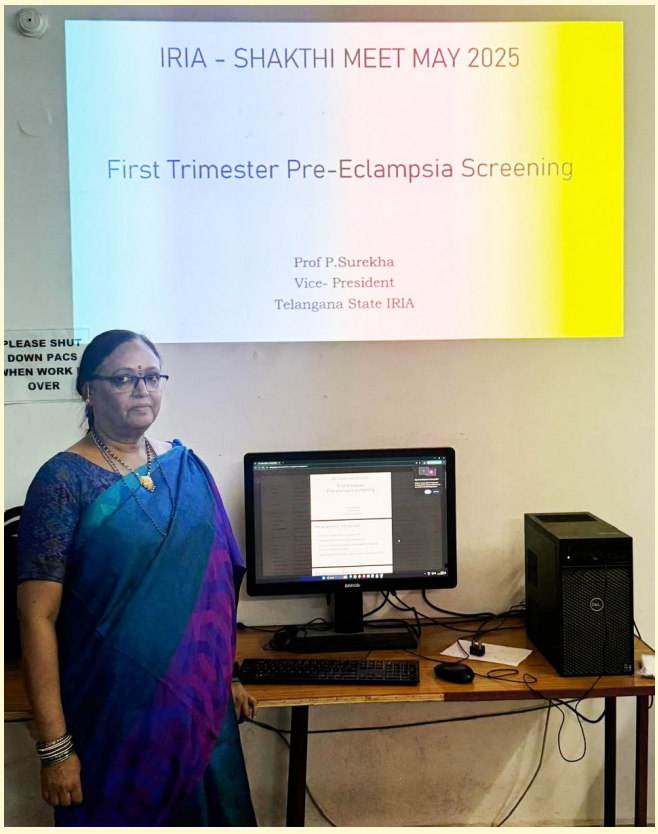

Monthly Meeting on 16th May – 2025 at Dr. MCR HRD Institute of Telangana, Jubilee Hills

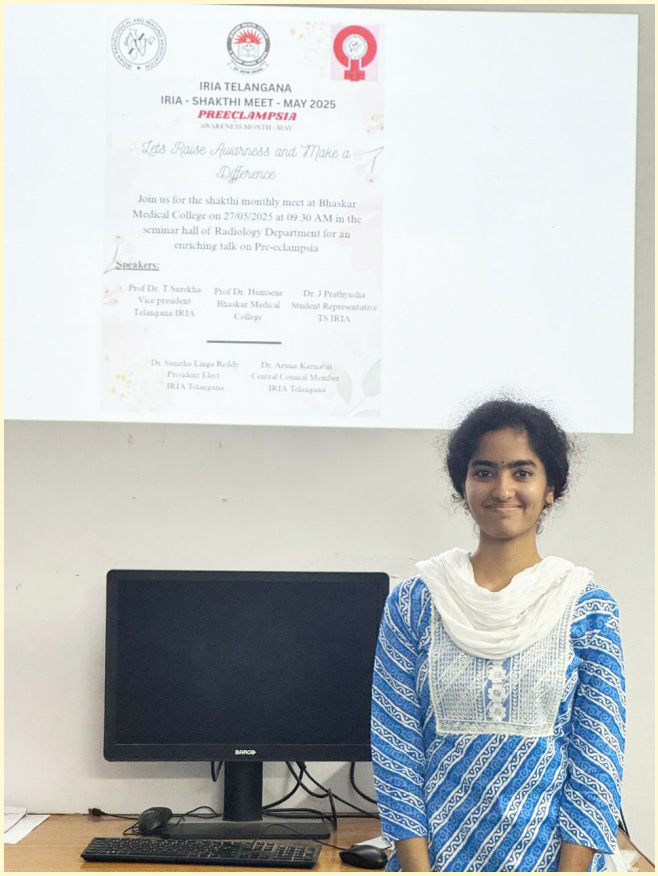




TS IRIA Shakti CME on 20th June 2025 at Yashoda Hospitals, Somajiguda

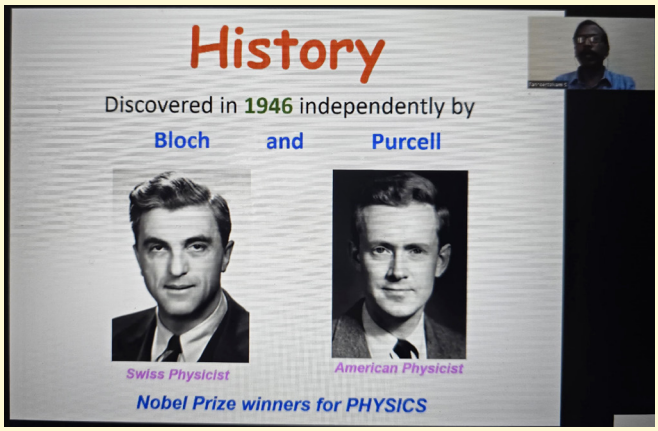

IRIA -TELANGANA
IRIA – SHAKTI MEET - APRIL 2025
PRIORITIZING HEALTH AMIDST LIFE RESPONSIBILITIES
EMPOWER YOURSELF
PRIORITIZE YOUR HEALTH FOR A HAPPIER, BALANCED LIFE!
JOIN US AT THE IRIA SHAKTI MEET 2025!
DATE: SATURDAY 26TH APRIL - 2PM TO 3PM
VENUE: SEMINAR HALL – DEPARTMENT OF RADIOLOGY;
BHASKAR MEDICAL COLLEGE, HYDERABAD, TELANGANA
DR. T. SUREKHA
IRIA TELANGANA
VICE PRESIDENT
DR. SUNITHA LINGA REDDY
IRIA TELANGANA
PRESIDENT ELECT 2026
DR. ARUNA KARNAVAT
IRIA TELANGANA
CENTRAL COUNCIL MEMBER


IRIA - SHAKTHI MEET MAY 2025
First Trimester Pre-Eclampsia Screening
Prof P.Surekha
Vice- President
Telangana State IRIA



A group to bring together all lady radiologists of TS IRIA. Activities of the IRIA Shakti group will be shared here.All lady radiologists are requested to join the group.Follow this link to join the WhatsApp group: *https://chat.whatsapp.com/G82Ea1xAn8vJHXr0KrcJMX*

HARP 2025 ONLINE PROGRAM



JOURNALS NOT TO MISS

1. Ectopic Pregnancy: A Trainee's Guide to Making the Right Call: Women's Imaging Stephanie N. Histed, Monica Deshmukh, Rinat Masamed, Cecilia M. Jude, Shaden Mohammad, Maitraya K. Patel RadioGraphicsVolume 36, Issue 7Nov 10 2016

2. Sonographic Assessment of Fetal Growth Abnormalities Michelle P. Debbink, Shannon L. Son, Paula J. Woodward, and Anne M. Kennedy RadioGraphics 2021 41:1, 268-288

3. Uncommon Implantation Sites of Ectopic Pregnancy: Thinking beyond the Complex Adnexal Mass Anjeza Chukus, Nikki Tirada, Ricardo Restrepo, Neelima I. Reddy RadioGraphicsVolume 35, Issue 3Apr 10 2015

4. Fetal MRI at 3 T: Principles to Optimize Success Fedel Machado-Rivas, Maria Camila Cortes-Albornoz, Onur Afacan, Maria Alejandra Bedoya, Camilo Calixto, Jungwhan John Choi, Matthew Ruggiero, Ali Gholipour, Camilo Jaimes RadioGraphicsVolume 43, Issue 4Mar 30 2023

5. Gestational Trophoblastic Disease: Clinical and Imaging Features Akram M. Shaaban, Maryam Rezvani, Reham R. Haroun, Anne M. Kennedy, Khaled M. Elsayes, Jeffrey D. Olpin, Mohamed E. Salama, Bryan R. Foster, Christine O. Menias RadioGraphicsVolume 37, Issue 2Mar 13 2017

6. Imaging of Antepartum and Postpartum Hemorrhage Kira Melamud, Shaun A. Wahab, Paul N. Smereka, Manjiri K. Dighe, Phyllis Glanc, Amita Kamath, Ekta Maheshwari, Leslie M. Scoutt, Nicole M. Hindman RadioGraphicsVolume 44, Issue 4Mar 28 2024

7. Multimodality Imaging Evaluation of Fetal Spine Anomalies with Postnatal Correlation Hassan Aboughalia, Sakura Noda, Teresa Chapman, Margarita V. Revzin, Gail H. Deutsch, Samuel R. Browd, Douglas S. Katz, Mariam Moshiri RadioGraphicsVolume 41, Issue 7Nov 1 2021

8. Placenta Accreta Spectrum Disorders: Update and Pictorial Review of the SAR-ESUR Joint Consensus Statement for MRI Krupa K. Patel-Lippmann, Virginia B. Planz, Catherine H. Phillips, Joanna M. Ohlendorf, Lisa C. Zuckerwise, Mariam Moshiri RadioGraphicsVolume 43, Issue 5Apr 20 2023

ANSWER TO CASE OF THE NEWS LETTER

Transvaginal Ultrasound showed single intra uterine gestational sac with embryo corresponding to 6weeks 4 days without cardiac activity in the anterior part of the lower uterine segment at the previous caesarian scar site. Anterior myometrium thinning was seen at the site of gestational sac.

MRI Pelvis showed a well-defined hyperintensity in lower uterine segment with a hypointense embryo within it. There is thinning of myometrium at the scar site anterior to sac.

DIAGNOSIS: CESAREAN SCAR ECTOPIC PREGNANCY.

Cesarean scar ectopic pregnancy (CSEP) is one of the rarest of all ectopic pregnancies. The incidence has increased due to increase in cesarean deliveries. Early diagnosis can be done by USG. it is very important because a delay can lead to increased maternal mortality and morbidity. Early diagnosis leads to prompt management and improves outcome by allowing preservation of future fertility. MRI has an important role to confirm the diagnosis. This must be differentiated from low implantation of a normal pregnancy, cervical ectopic pregnancy, and evolving pregnancy loss.

HOW TO MAKE DIAGNOSIS:

HISTORY: Prior cesarean history

SAC LOCATION:

Low lying sign- Line is drawn from the external os to uterine fundus and the center of the sac is below the midline.

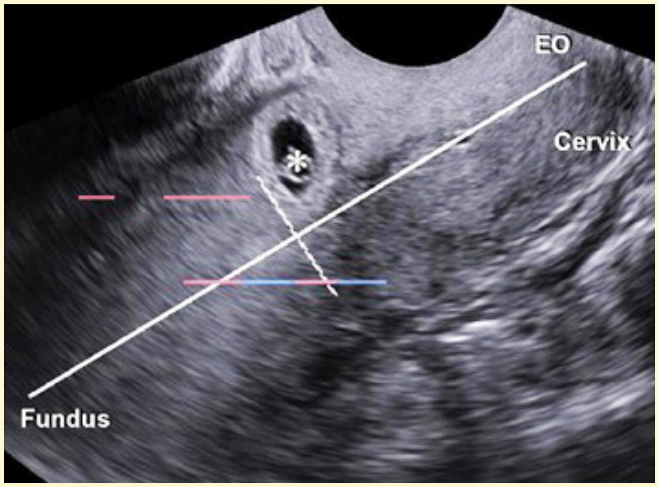


Figure A:

Cross over sign- Line is drawn from internal cervical os to uterine fundus . If at least two-thirds of the sac crosses over the line and lies anteriorly in the inferior myometrium, it is highly suspicious for abnormal implantation in the scar. This finding is independently associated with severe forms of placenta accreta spectrum

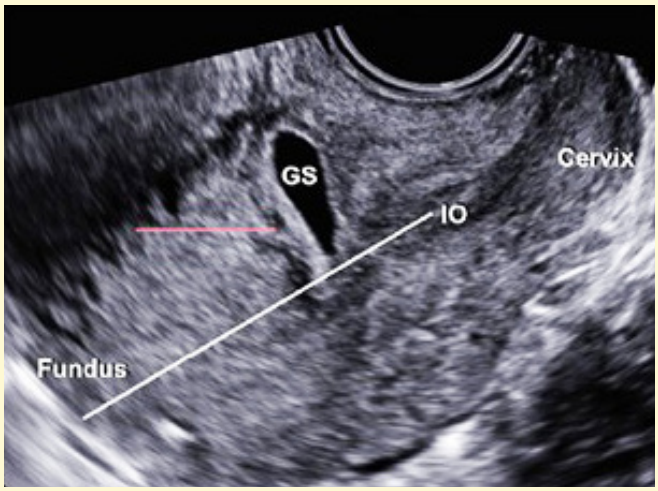


Figure B:

GROWTH PATTERN:

Exogenous growth pattern: This type causes bulging the external uterine surface. Associated with uterine rupture and placenta accrete spectrum.

Endogenous growth pattern: Growth of the GS into uterine cavity. Associated with delayed diagnosis and sometimes lead to live birth.

RESIDUAL MYOMETRIAL THICKNESS:

The myometrial layer between the GS and bladder is thin or may even appear deficient in CSEP

Thickest myometrium adjacent to the niche, and RMT is the thickness at the apex of the niche; both are measured perpendicular to the serosa which are to be mentioned in the report.

ABNORMAL VASCULARITY:

Increased vascularity around CSEPs is due to the loss of the normal uterine structure in the scar area and the development of placental tissue in proximity to large-diameter arteries of the outer uterine wall. This results in abnormal trophoblastic invasion

of myometrial vessels and causes development of arteriovenous shunts.

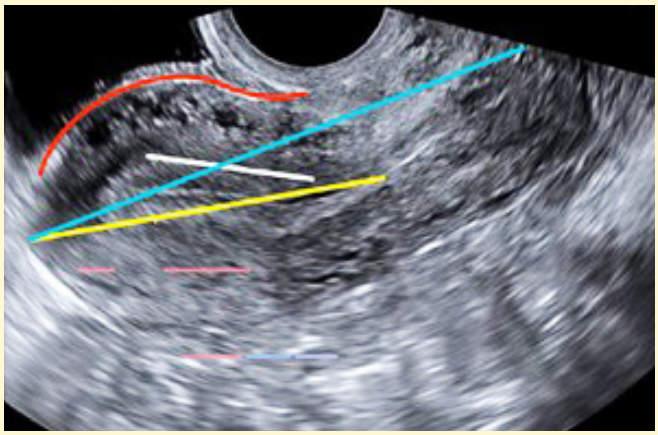


Figure C:

Yellow line: from the internal cervical os to the uterine fundus is used for cross over sign

Blue line: drawn from external cervical os to the uterine fundus is used for low-lying sign

White line: uterine cavity line at the transition of endometrium to the myometrium

Red line: serosal line drawn along the outer border of myometrium.

DIFERENTIAL DIAGNOSIS:

EARLY PREGNANCY LOSS-A patient with evolving pregnancy loss may present with pelvic pain, vaginal bleeding, and a GS positioned low in the uterine cavity. The sac location may have changed from an earlier study, or it may be mobile in the uterus with transducer pressure (sliding sign), indicating detachment from the myometrium.

CERVICAL PREGNANCY-A cervical ectopic pregnancy is embedded in the cervical stroma below the level of the internal cervical os, whereas a CSEP is embedded in the lower uterine segment above the internal os.

Dr Himaja Priya Sirikonda
First Year Resident
Mamata Academy of Medical Sciences, Bachupally

CASE COURTESY:

Dr Himaja Priya Sirikonda[1], Dr Geethika Mandepudi[2], Dr. Sai Soumya Thati[3], Dr Sudha Bindu Tirumani[4]
Resident[1], Associate Professor[2], Assistant Professor[3] of Radiodiagnosis,
Mamata Academy of Medical Sciences, Bachupally