

Newsletter@Star

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Dr. Ashish Atre MD, DNB
Chief Radiologist

Star Imaging's Legacy of Innovation

For more than 15 years, Star Imaging has brought next-generation radiology technologies to Pune. Guided by a commitment to help people access the latest imaging advances while receiving world-class healthcare, the brand has empowered countless families to achieve better health outcomes. Sharper imaging directly translates into more accurate diagnoses and reduced risk of misdiagnosis. Star Imaging's focus on organ-specific radiologists and experts skilled in performing and interpreting specialized scans ensures pinpoint clarity and superior diagnostic confidence.

Under the visionary direction of Dr. Ashish Atre, an internationally recognized radiologist with over three decades of expertise in Neuroradiology and Paediatric Imaging, Star Imaging has redefined diagnostic excellence. Star Imaging and Research Centre now operates five premier facilities across Deccan, Bund Garden, Wakad, Baner, and in Akuj, with plans for further growth.

Neuberg Diagnostics, among India's fastest-growing diagnostic chains, has joined forces with Star Imaging, a pioneer in advanced medical imaging, to establish integrated centres that combine cutting-edge pathology and radiology services across Maharashtra.

Commenting on the collaboration, Dr. Atre stated, "This joint venture represents a transformative step for our organizations and for healthcare in Maharashtra. By uniting clinical excellence, we are creating an integrated diagnostic platform that delivers fast, accurate insights — enabling early detection, precise treatments, and improved outcomes." Through this partnership, Neuberg Diagnostics and Star Imaging will scale state-of-the-art imaging and laboratory services to more communities, ensuring patient-centric care, advanced technology, and enhanced safety are within easy reach.



Dr. Unmesh Bhosale MBBS, DMRD, DNB
Consultant Radiologist

CASE 1 Pleomorphic Liposarcoma of Lower Extremity

A 77-year-old male patient with h/o pain and gradually increasing swelling in left leg since 2 months. No h/o past trauma, DVT or fever. Clinical examination: hard swelling in left calf region.

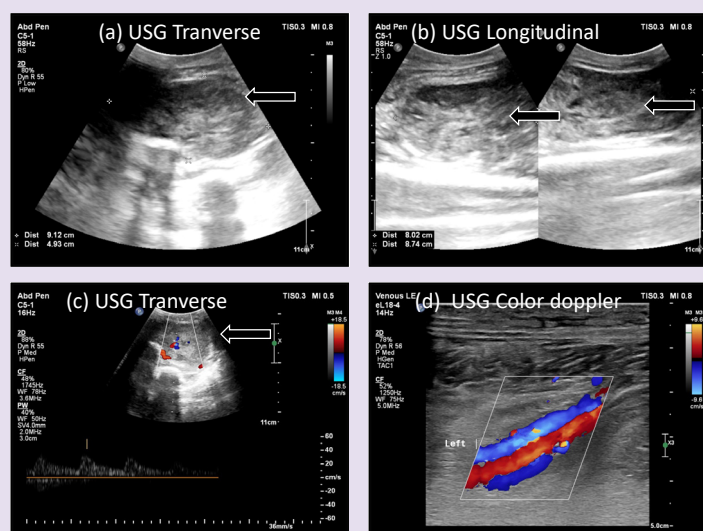


Fig 1: USG Transverse image (a), USG longitudinal image (b), Color doppler image (c) and venous color doppler image (d) shows a large heterogenous echotexture lesion (black arrow) in calf muscles with internal low resistance type arterial vascularity. Lesion is purely intramuscular. Venous color doppler did not show evidence of DVT.

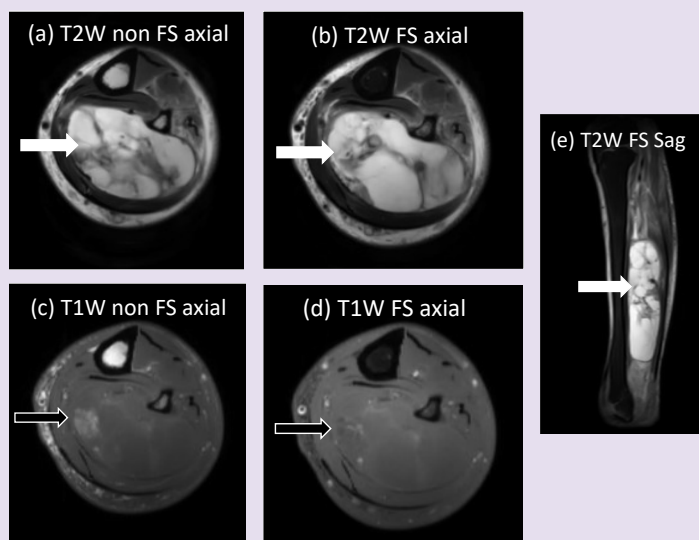


Fig 2: T2W non-FS axial (a), T2W FS axial (b), T1W non-FS axial (c), T1W FS axial (d), T2W FS sag (e) MRI images reveal heterogenous signal intensity lesion (white arrows) in FHL muscle with irregular hypointense areas within. T1 weighted images reveal fat component (black arrows) along medial aspect of mid portion of lesion which is suppressed on fat saturated images.

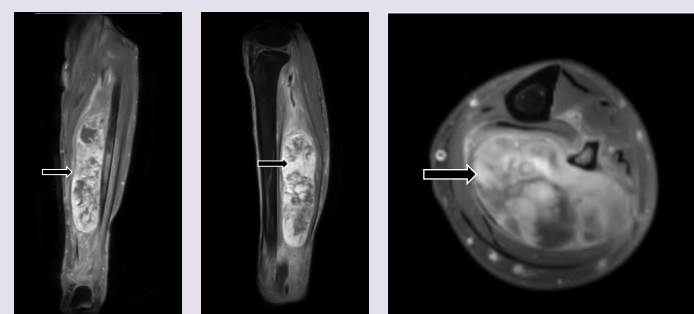


Fig 3: T1W post contrast coronal (a), sagittal (b) and axial (c) images reveal heterogeneously enhancing intramuscular lesion (black arrows) in FHL muscle with non-enhancing areas. Mild peri-lesional intramuscular edema is noted.

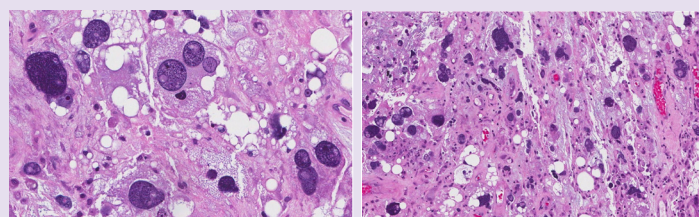


Fig 4: Post-operative histopathology revealed pleomorphic spindle cells with variable number of pleomorphic lipoblasts. Follow-up: Patient received 30 CT cycles post-operative and is presently doing well on follow-up visits.

Key points:

- Pleomorphic liposarcoma is an uncommon sub-type of liposarcoma.
- It occurs most commonly in the deep soft tissues of the extremities in elderly patients.
- These tumors are aggressive high-grade sarcomas with a high incidence of recurrence and metastasis.
- On CT and MRI, pleomorphic liposarcoma appear as well-circumscribed masses containing little or no fat. MRI appearance is similar to other aggressive soft-tissue sarcomas often showing internal haemorrhage and necrosis.

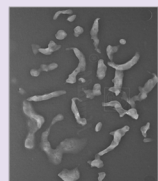
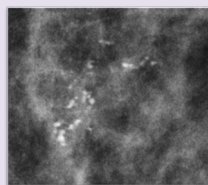
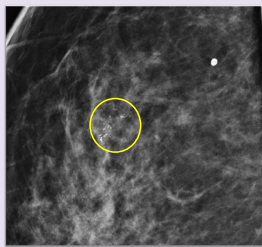
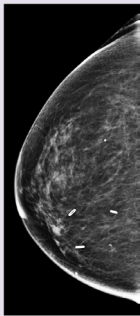


Dr. Swati Shah MBBS, MD, DNB
Consultant Radiologist

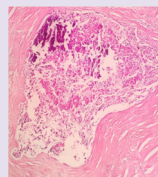
CASE 2a

Vacuum-Assisted, Image-Guided Breast Procedures for Diagnostic and Therapeutic Purposes

A 31-year-old lady's status post BCT for carcinoma of the right breast in 2021. New grouped coarse heterogenous microcalcifications were seen on the follow-up mammogram — positive predictive value of 18% IVb. No sonography correlate was seen.



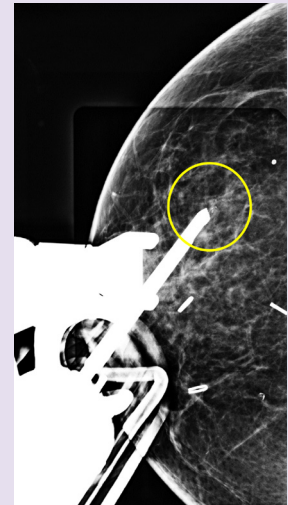
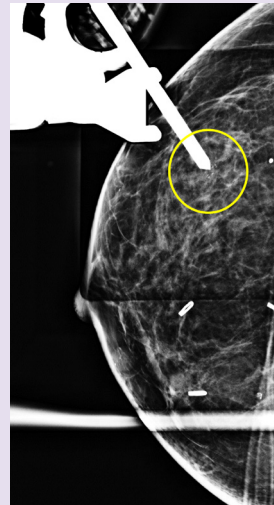
Specimen Mammogram Showing Microcalcifications In Multiple Cores.



Final HPE Diagnosis:

- Ductal Carcinoma-In-Situ, high grade
- Comedonecrosis and calcification present

Tomo-Guided, Vacuum-Assisted Biopsy (VAB)



Once the needle was in place as demonstrated by the pre-fire scan here (inset), the gun was fired and subsequently 12 cores were obtained rotating the 9G needle through 360 degrees while the vacuum pulled the tissue. The tissue was cut and transferred to the sample holding casket at the end of the device.

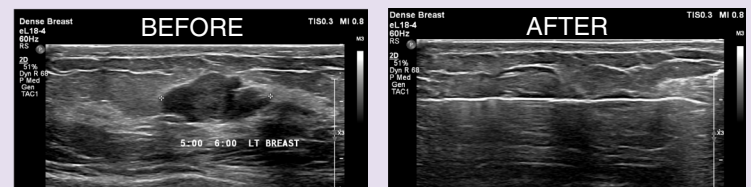
CASE 2b

A 39-year-old came for Hormone Replacement Therapy with solitary left breast lump measuring 2cm. She had undergone vacuum assisted excision of the lump under sonographic guidance. First images show the lump and second image shows complete excision within few minutes with cutting device in situ.

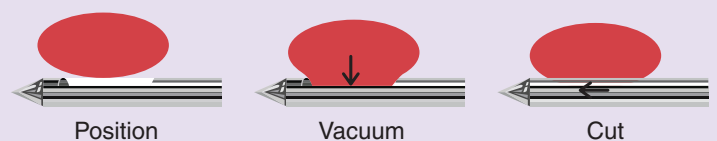
The same principle with therapeutic intent is used for excision of benign lesions in selective patients with low adherence to follow-up, anxiety, cosmetic reasons, or pain.

The procedure involves a single-time insertion with fast acquisition of larger tissue in contiguous manner using a 7G/9G cutting device.

No general anaesthesia, no hospital stay, minimally invasive, and cosmetically better.



Vacuum-Assisted Excision (VAE) of Benign Lesions



Key points:

- These can be performed under mammographic or sonographic guidance. With negative predictive value reaching up to 99.9%, Vacuum-Assisted Biopsy (VAB) is considered as good as excisional surgical biopsy.
- However, at STAR, VAB is performed for all stereotactic biopsies, whereas with sonography guidance it is only used if pathological analysis is inconclusive, or with therapeutic intent for excision of benign lesions (VAE).



Dr. Sukhada Kulkarni MBBS, MD, DNB

Consultant Radiologist

CASE 3 Inflamed 1st Dorsal Compartment Ganglion Cyst

A 47-year-old lady presented with a nodular swelling along the radial aspect of the distal forearm just proximal to the level of the wrist joint. It was present since a few months and was painful at the time of presentation.

On examination, there was significant tenderness along the radial aspect of the distal forearm and severely restricted movement of the thumb.

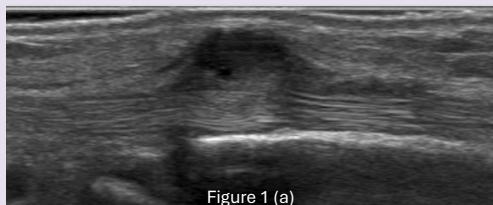


Figure 1 (a)

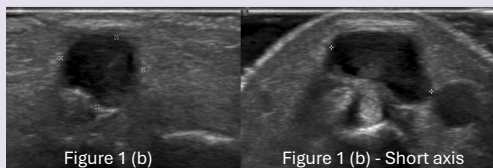


Figure 1 (b)

Figure 1 (b) - Short axis

Fig 1. Anechoic cystic lesion at the site of swelling along the 1st dorsal compartment tendons in long axis (a) and measured in long and short axis (b).

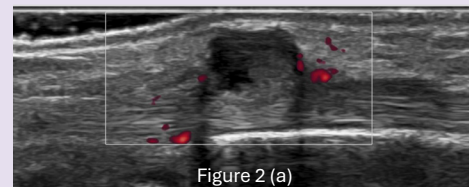


Figure 2 (a)

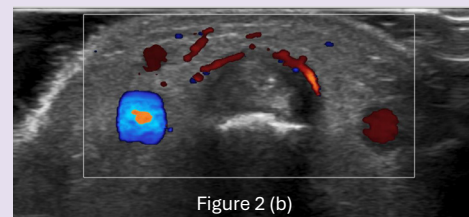


Figure 2 (b)

Fig 2. Extensive perilesional soft tissue inflammatory changes and vascularity seen in long axis (a) and short axis (b).

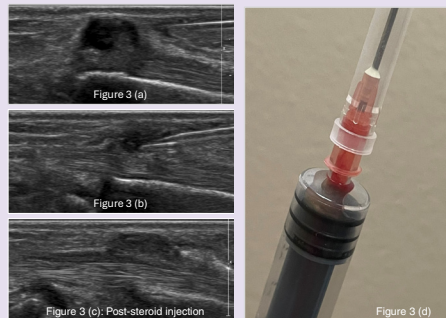


Figure 3 (a)

Figure 3 (b)

Figure 3 (c): Post-steroid injection

Figure 3 (d)

Fig 3. The cyst was aspirated, wall was fenestrated (a and b) and steroid injection was administered along the cyst wall and the tendon sheath (c) jelly like reddish fluid was aspirated in the syringe (d).

Diagnosis on USG: Inflamed ganglion cyst along the first dorsal compartment tendon with significant tendon sheath thickening of the adjacent 1st dorsal compartment tendons.

Patient was pain-free immediately after the procedure with improved thumb movements.

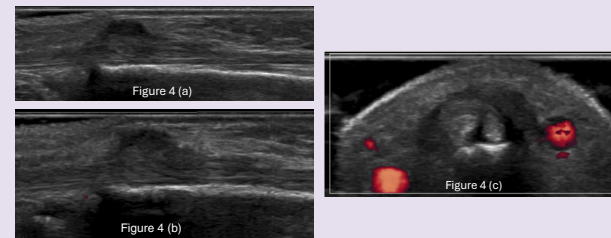


Figure 4 (a)

Figure 4 (b)

Figure 4 (c)

Fig 4: 1 week follow-up. The collapsed cyst wall is still seen (a) but there is no perilesional vascularity (b and c)

Follow-up USG after 1 week showed complete resolution of the inflammation.

The collapsed cyst wall was seen but there was no re-filling of the cyst.

She had pain-free movement for up to 80% range.

No post-procedural complications were observed.

Patient came for a follow-up for a different reason after 6 months. Screening of the wrist at that time revealed complete resolution of the tendon sheath thickening and no inflammatory changes.

Key points:

- Ganglion cysts are fluid-filled structures adjacent to a joint or tendon sheath. They are the most common soft tissue mass on the hand and wrist.
- Ganglion cysts on the tendon sheath are commonly described along the flexor tendons or extensor pollicis longus (EPL).
- De Quervain's tenosynovitis is the most common pathology affecting the 1st dorsal compartment tendons (Abductor pollicis longus and Extensor pollicis brevis). Inflammation and thickening of the tendon sheath surrounding these tendons leads to pain, with restricted thumb and wrist movements. Development of a ganglion cyst along the APL and EPB tendon sheath is very uncommon.
- Treatment of the ganglion cyst is based on the severity of symptoms. Most cysts can be managed conservatively. When intervention is required, ultrasound-guided treatment gives excellent results. Recent studies show similar recurrence rate with minimally invasive ultrasound guided interventions as with surgical excision.



Dr. Amit Zope MBBS, DMRD, DNB
Fetal Medicine Consultant

CASE 4 Prenatal Diagnosis of Diastematomyelia

A 28-year-old primigravida was referred for an anomaly scan at 21 weeks. First trimester combined screening is at low risk.

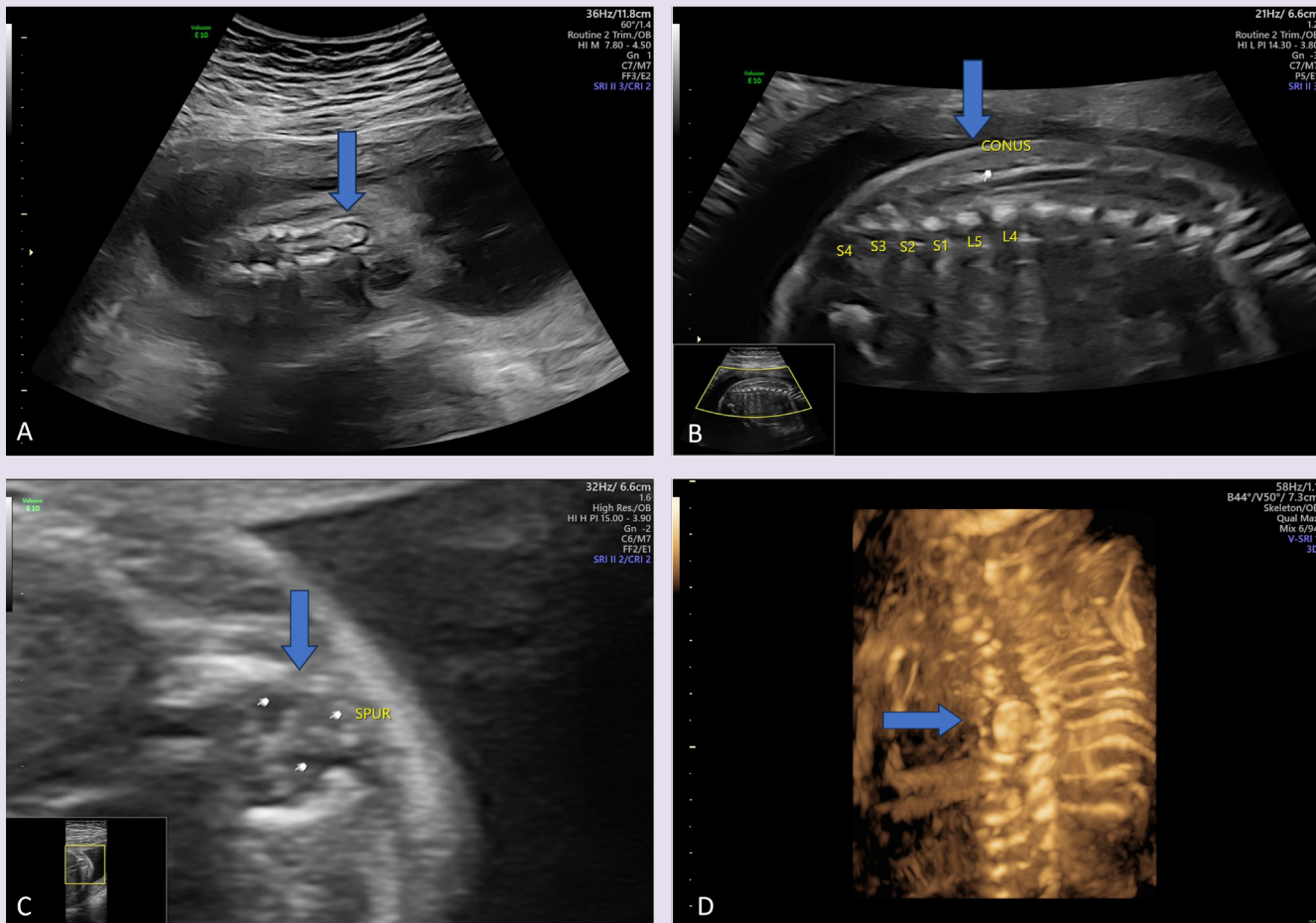


Fig 1: Ultrasound scan revealed a midline bony septum in the dorsal spine (A and D) which was suggestive of diastematomyelia. Splitting of the dorsal cord was also seen (C) along with low lying conus featuring tethered cord (B). No intracranial abnormality was seen. There was no associated other anomaly. Imaging features were suggestive of Diastematomyelia.

Key points:

- Diastematomyelia is a rare form of spinal dysraphism characterised by complete or incomplete clefting of the spinal cord which may be due to a fibrous or bony spur. It may be isolated or associated with other spinal or visceral malformations, the most common association being spina bifida.
- A widened spinal canal and an extra echogenic (bright) focus in the spinal canal are classic ultrasound signs. 3D ultrasound is particularly useful in visualizing the sagittal spur in the coronal plane.
- Fetal magnetic resonance imaging (MRI) is often used to confirm the ultrasound findings and provide a more detailed assessment of the spinal cord abnormalities.
- **Why Early Diagnosis Matters:**

Surgical Intervention: Early diagnosis facilitates timely surgical intervention after birth, especially for isolated cases.

Prognosis: Early surgical intervention can prevent neurological complications and can lead to a favorable outcome for the child.



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Manali Khedkar • Prashant Kokate

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