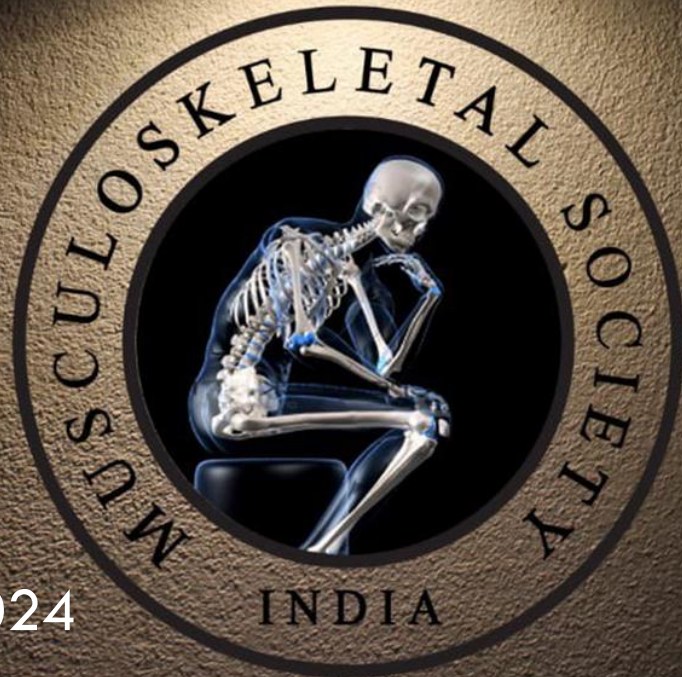


MI-COD

MSS INDIA- Case Of the Day



16/09/2024

Case contributor – Dr. Chaitali Parekh

Musculoskeletal Society of India (MSS) &
Indian Journal of Musculoskeletal Radiology
(IJMSR), the official publication of MSS India

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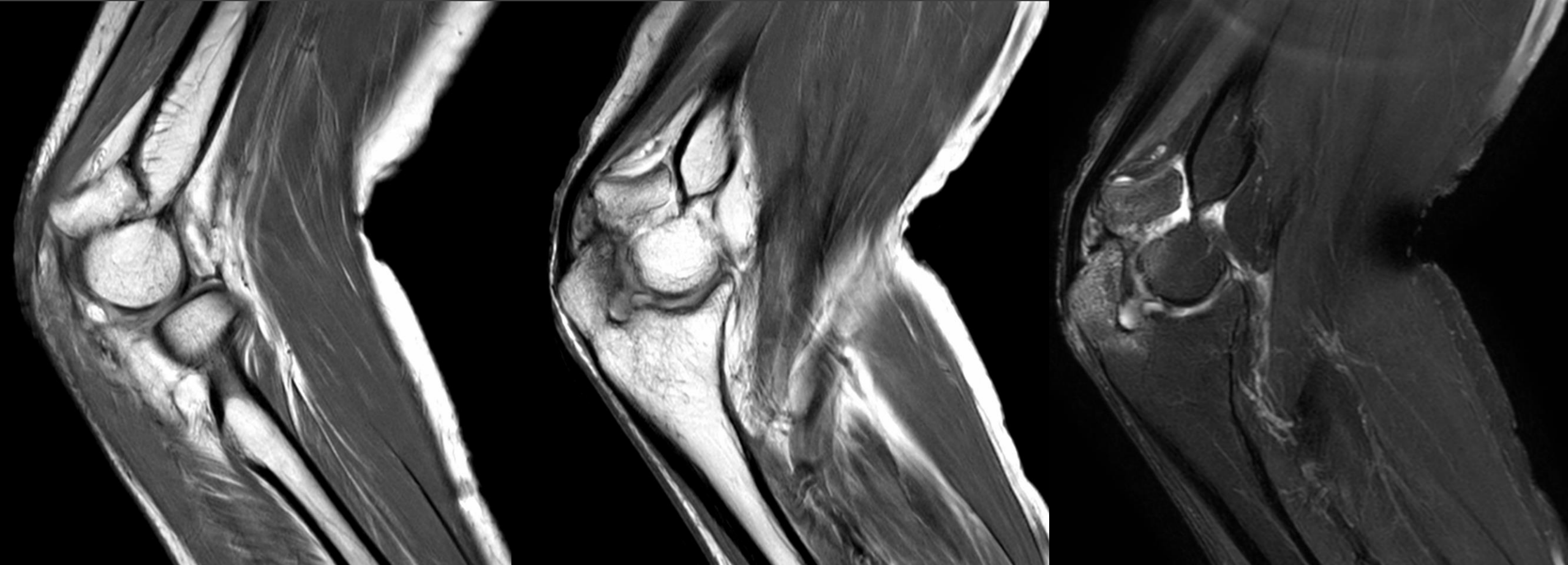


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Neglected trauma 6 months back, now unable to completely extend the elbow



Possibilities please?

Neglected trauma 6 months back, now unable to completely extend the elbow



Malunited olecranon process fracture in the olecranon fossa with posterior impingement

Elbow Stiffness Imaging: A Practical Diagnostic and Pretherapeutic Approach

Flexion–extension stiffness etiologies.

Extension Dysfunction

Anterior Tether

Thickened anterior capsule

Contracture or HO of the anterior band of the medial collateral ligament

Contracture or HO of the flexor muscle/tendon

Anterior scarred skin

Posterior Block

Entrapped synovium

Osteophytes of the olecranon process or fossa

Loose bodies in the olecranon fossa

Posterior elbow ho

Posterior articular osteochondral lesion

Flexion Dysfunction

Posterior Tether

Thickened posterior capsule

Contracture or HO of the posterior band of the medial collateral ligament

Triceps contracture or HO

Posterior scarred skin

Anterior Block

Entrapped synovium

Osteophytes of the coronoid process or fossa

Loose bodies in the coronoid fossa

Anterior elbow ho

Anterior articular osteochondral lesion

HO: heterotopic ossification.

- Etiology of elbow stiffness is multifactorial - frequently by an association of tethers and/or blocks, essentially secondary to trauma and OA
- Can involve multiple intra-articular or extra-articular structures, such as capsular, and periarticular soft tissues
- Radiographs & CT ideal modalities
- CT-arthrography in preoperative setting for optimal evaluation of the cartilage articular surface.
- MRI can be recommended in atraumatic joint stiffness searching for a soft-tissue origin for joint stiffness.

Elbow Stiffness Imaging: A Practical Diagnostic and Pretherapeutic Approach

Radiographic checklist.

Items to be Checked on Radiographs

<i>Anteroposterior view</i>	<i>Profile</i>
Malunion	Malunion
Malalignment in the frontal plane	Malalignment
Loose bodies	Loose bodies (olecranon and coronoid fossae)
Joint space narrowing	Radial head subluxation or dislocation
Periarticular calcification	Drop sign * (instability?)
Heterotopic ossification	Heterotopic ossification
Osteophytes (radial head)	Capsular ossification (anterior +++)
	Osteophytes (olecranon and coronoid +++)
	Olecranon, coronoid, or radial fossae osteophytic filling

*: The drop sign corresponds to an irregular humeroulnar joint space, superior to 3 mm in width [21].

Ultrasonographic checklist.

Ulnar neuropathy +++
Heterotopic ossification vasculonervous relations, if present
Cartilaginous lesions
Joint effusion and synovitis
Loose bodies (and their mobility)
Ligamentous pathology in case of instability
Osteophytes' location

Elbow Stiffness Imaging: A Practical Diagnostic and Pretherapeutic Approach

CT / CT arthrography checklist

Loss of flexion	CT/CT-Arthrography
	<i>Posterior tethers/anterior blocks</i>
	HO
	Anterior synovitis
	Loose bodies
	Osteophytes/fibrosis in the radial or coronoid fossa
	Osteophytes around the coronoid
	Joint space narrowing
Loss of extension	CT/CT-Arthrography
	<i>Posterior blocks/anterior tethers</i>
	HO
	Posterior synovitis
	Free bodies
	Osteophytes/fibrosis in the olecranon fossa
	Osteophytes around the olecranon
	Joint space narrowing
Forearm rotation dysfunction	CT
	Proximal radioulnar bony ankylosis
	Malunion or nonunion of the radial head
	Posttraumatic sequelae of the radial head
Any stiffness	CT-Arthrography
	Humeroulnar joint cartilaginous lesion (absent/mild/moderate/severe)
	Humeroradial joint cartilaginous lesion (absent/mild/moderate/severe)

MRI checklist

Loss of Flexion	<i>Anterior tethers/posterior blocks</i>
	Capsular scarring (lateral and medial ligament complex)
	Brachialis scar
	HO
	Anterior synovitis (consider IV contrast media if needed)
	Loose bodies
	Osteophytes in the radial or coronoid fossa
	Osteophytes around the coronoid
	Joint space narrowing
	Loss of extension
Forearm rotation dysfunction	<i>Posterior blocks/anterior tethers</i>
	Capsular scarring (lateral and medial ligament complex)
	Triceps scar
	HO
	Posterior synovitis
	Loose bodies
	Osteophytes in the olecranon fossa
	Osteophytes around the olecranon
	Joint space narrowing
	Any stiffness
Forearm rotation dysfunction	Forearm rotation dysfunction
	<i>Not initially indicated</i>
	Chondropathy of the radial head
	Annular ligament scar
	Radioulnar synostosis
	Any stiffness
	Humeroulnar joint impingement (absent/partial/severe)
	Humeroradial joint impingement (absent/partial/severe)
	Soft tissue lesion
	Ulnar nerve injury
HO: heterotopic ossification.	

Thank you..