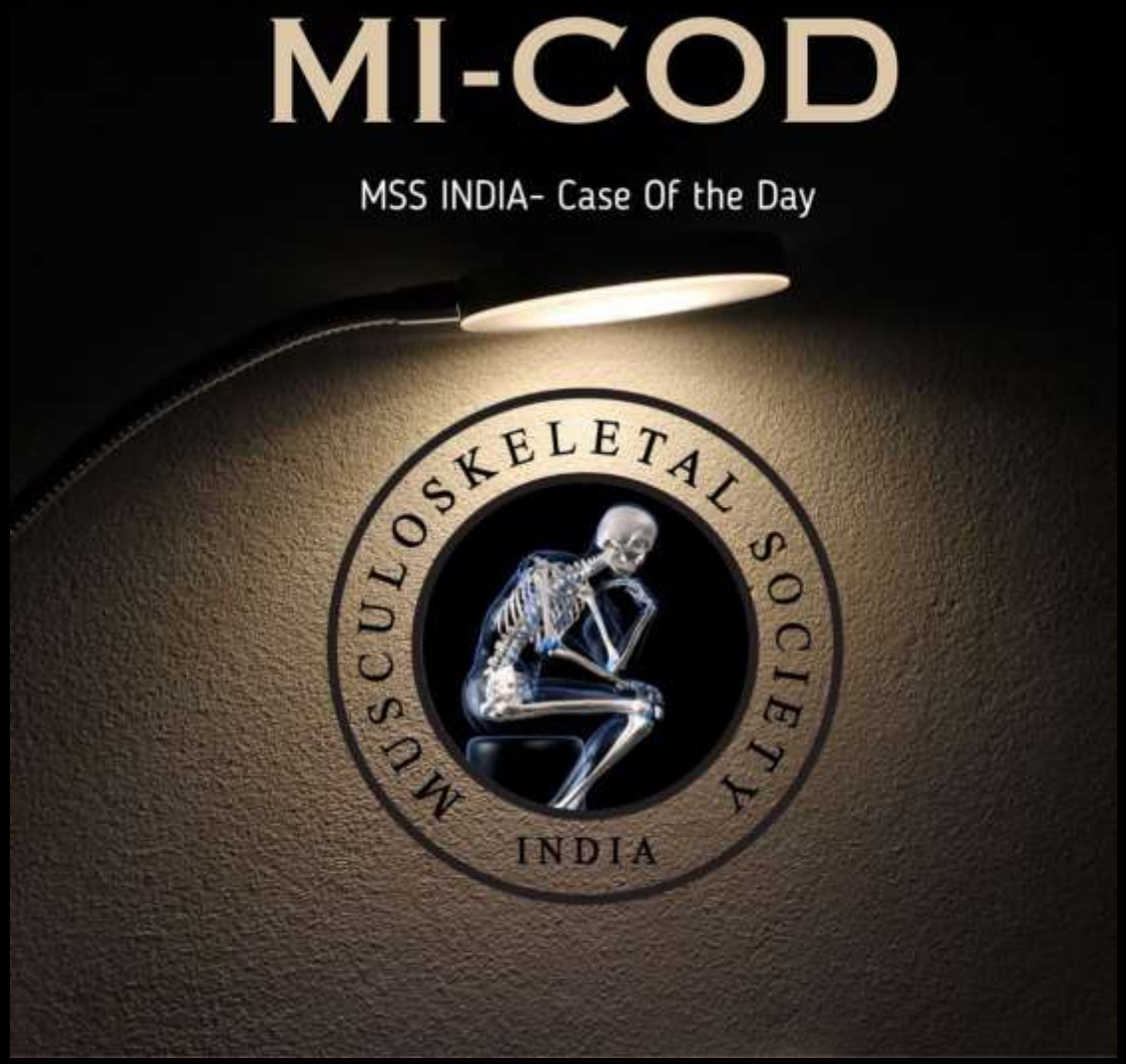
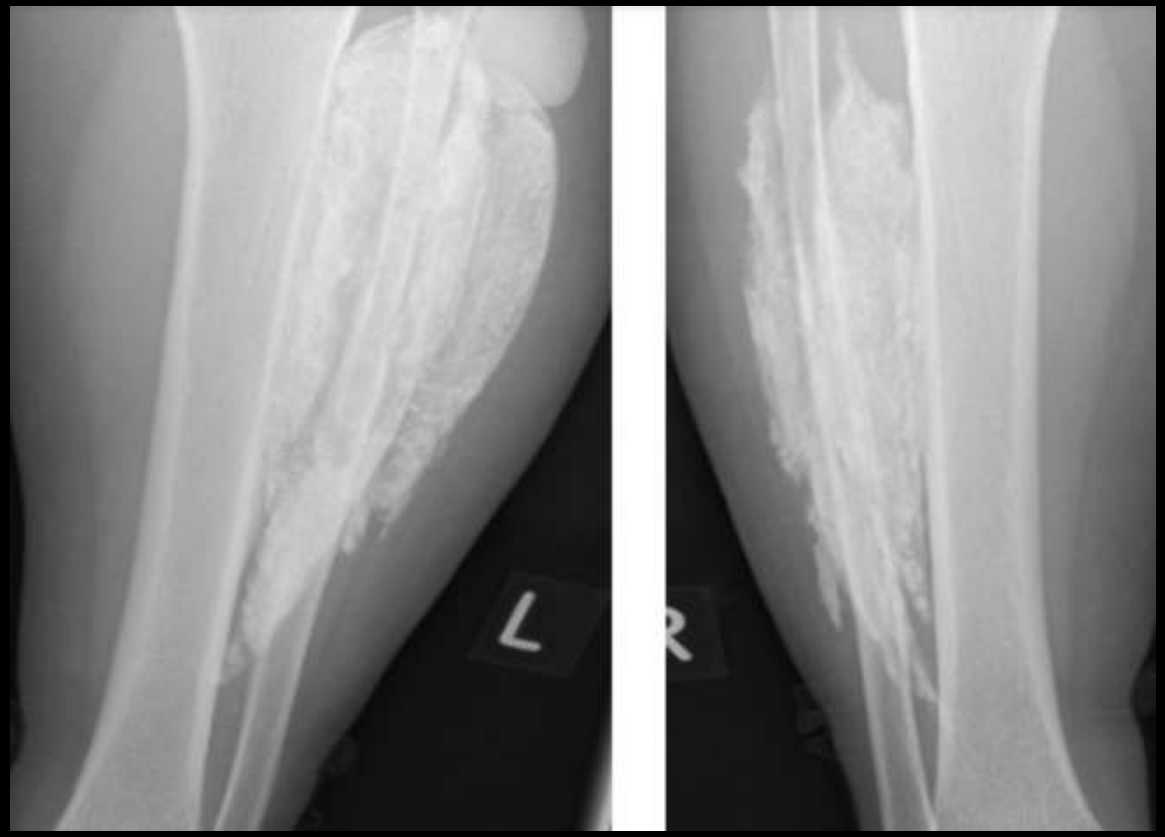
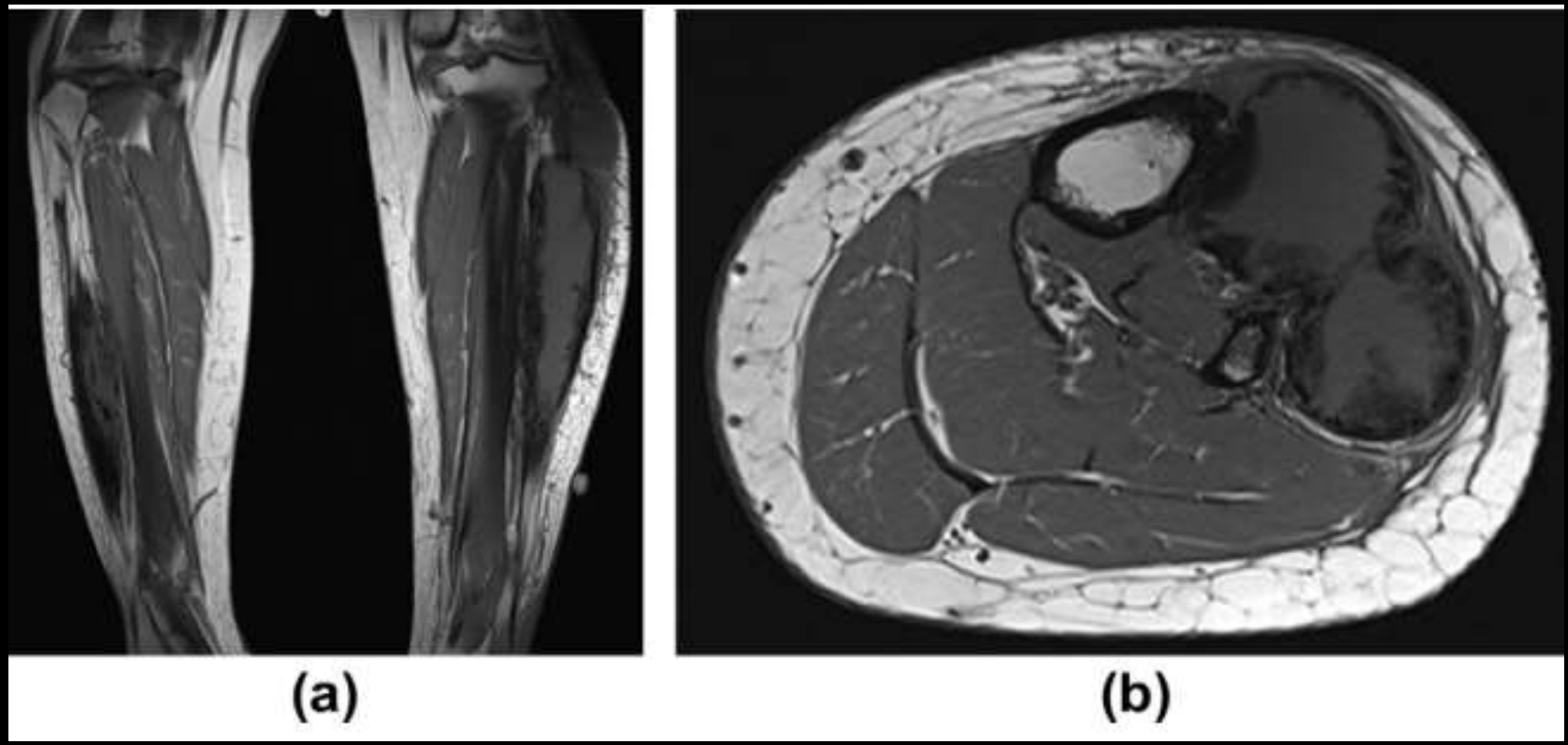
MICOD – 28/05/2024
Case contributor – Dr. Rajesh Botchu



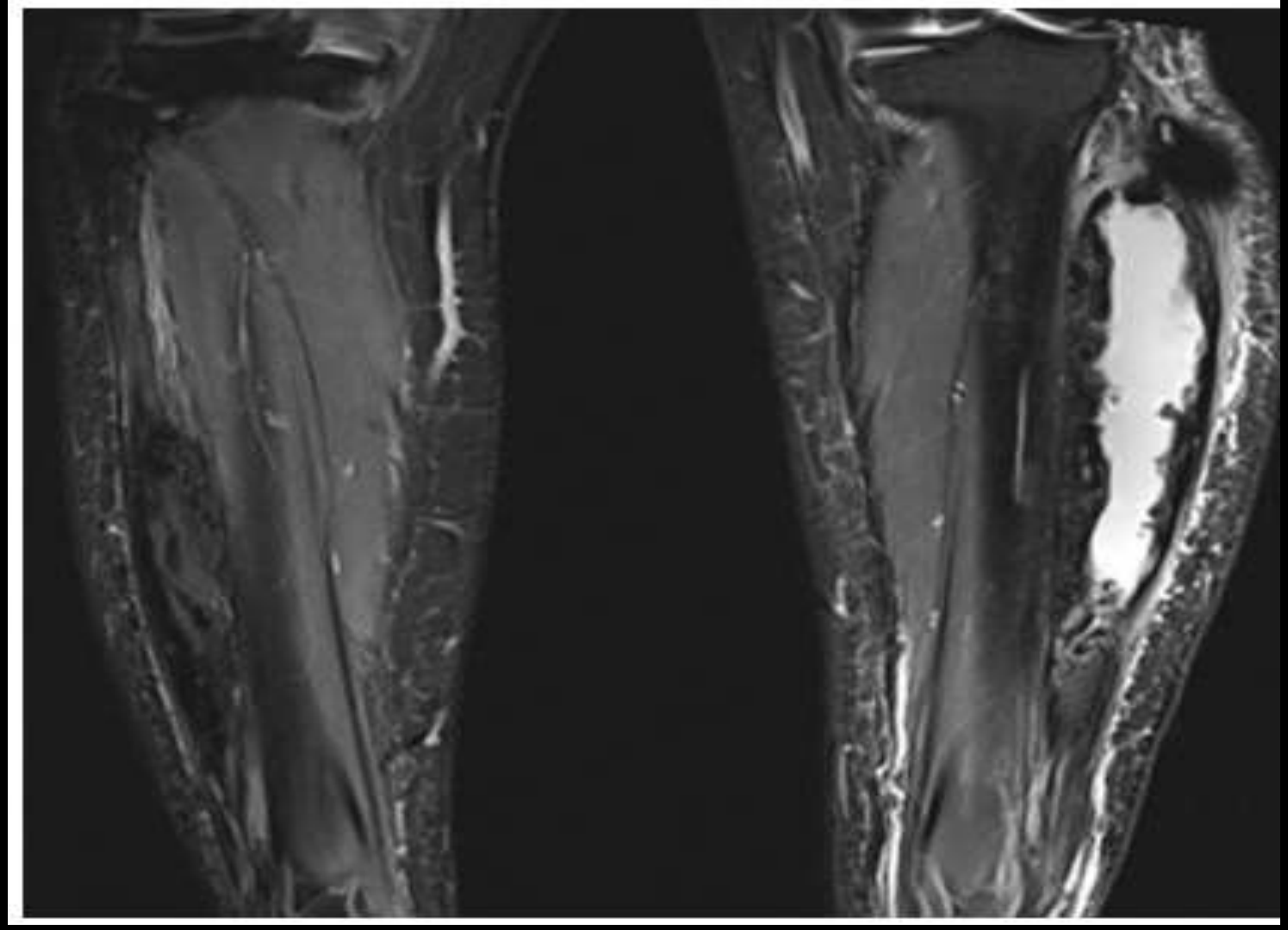
Female patient was referred to the outpatient clinic with a 4-month history of a gradually enlarging, painful mass in the lateral aspect of left lower leg with similar history of right lower leg pain, but to a much lesser extent.



(a) Anteroposterior radiograph of the left lower leg showing an anterior compartment soft-tissue mass with peripheral eggshell calcification with variable density. (b) Anteroposterior radiograph of right lower leg showing an anterior compartment soft-tissue mass with peripheral curvilinear calcification.



2 (a) Coronal and (b) axial T1-weighted MRI images through both lower legs and left lower leg, respectively, showing anterior compartment masses with peripheral, nodular/frond-like low signal margin with central homogeneous iso/low-intense signal.



Coronal STIR MRI images through both lower legs showing a left anterior compartment mass with peripheral low signal nodularity and central high signal due to fluid at the centre. Similar findings were seen on the right side

Birmingham MSK Radiology

Bilateral calcific myonecrosis associated with epilepsy

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Calcific Myonecrosis

Calcific Myonecrosis

Birmingham MSK Radiology

Background

- Calcific myonecrosis (CMN) is a rare condition, which commonly affects the anterior compartment of the leg.
- Gallie and Thompson first described it in 1960. Previously published cases have a consistent history of high-energy trauma to the leg, suggesting a post-traumatic aetiology.
- The trauma is followed by a compartment syndrome and eventual ischaemia and fibrosis of the muscles.
- CMN may present as a firm to hard calcific mass with central necrosis/ liquefaction, which replaces the muscle in the compartment and may mimic a neoplastic or infective mass.

Pathology

- Occurs most commonly following trauma.
- Trauma is followed by a compartment syndrome - eventual ischaemia and fibrosis of the muscles.
- Commonest muscle compartment affected is the anterior compartment of the lower leg, although other compartments of the lower limb and upper limb have also been described.

Calcific Myonecrosis

Diagnosis

- Radiography shows peripheral curvilinear and eggshell calcification involving the muscles.
- The density of the calcification was variable in different parts of the muscle masses.
- Contrast-enhanced CT shows the rim-like peripheral calcification, with central heterogeneous fluid density and fluid levels
- Magnetic resonance imaging (MRI) demonstrates classical fusiform masses replacing the muscle bellies, with peripheral nodular and frond-like low signal on T1 and short tau inversion recovery (STIR) sequences in keeping with calcification and haemosiderin deposition.

Differential diagnosis

- Hematoma, synovial sarcoma, epithelioid sarcoma, soft-tissue osteosarcoma and parosteal osteosarcoma.
- A hematoma usually involves a history of recent trauma.
- Sarcomas tend to affect young adults, are very aggressive in nature, enhance with contrast, are not confined to a single muscle group, and do not usually have peripheral calcification.
- The ossification pattern in parosteal osteosarcoma is different from that of calcific myonecrosis, proceeding from the base of the lesion to its periphery. The mass is usually


Calcific Myonecrosis: Keys to Recognition and Management

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Volume 187, Issue 1 | https://doi.org/10.2214/AJR.05.0245

Calcific Myonecrosis

Management

- The treatment of this condition has been a point of debate.
- Previous authors have reported excision.
- However, surgical intervention is often associated with complications, such as excessive bleeding, secondary infection, and chronic fistula formation.
- In some institutions, CMN is a classic “don’t touch” lesion, and these are managed symptomatically.
- Excision is considered only if patients are in extreme pain, uncontrolled with analgesics, or if the patient expressly desires so.

Take home message

- Diagnosis of CMN should be considered in epileptic patients with calcified, soft-tissue masses with a remote history of moderate/repetitive trauma.
- Imaging, in most cases, is adequate to reach a confident diagnosis and surgical intervention can be avoided.

- THANK YOU.