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INNER SPACES
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MRI in Myopathies

-Dr. Khushboo Pilania

Idiopathic inflammatory myopathies [IIMs] are a group of chronic, autoimmune conditions characterised by slowly progressive weakness of the skeletal muscles. The commonest subtypes include Dermatomyositis (DM), Polymyositis (PM) and Sporadic inclusion body myositis (IBM).

MRI when performed with an adequate myositis protocol plays an important role in the management of IIMs.

MRI Indications in IIMs:

1. To assess the extent of disease
2. Differentiate the type of myopathy
3. Stage of the disease [i.e. differentiate active from inactive]
4. Identify the target site for biopsy
5. Assess the chronicity [presence /absence of atrophy]
6. Look for any concomitant pathology
7. Monitor the temporal evolution of disease on follow up scans

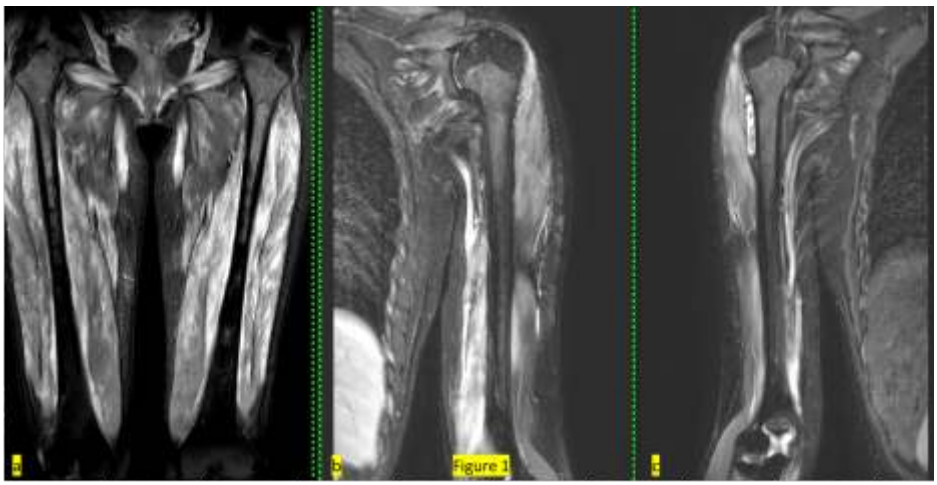

Figure 1 (A-C): Polymyositis. Coronal STIR images of the thigh (a) and the left (b) and right arms (c) show high signal edema involving the muscles of all compartments of the thighs as well as the arms. There is no fascial or subcutaneous edema.

MRI Features:

Polymyositis (Fig. 1): Symmetrical involvement with diffuse homogenous high signal edema. It either shows a global or posterior compartment predominance in the thigh and usually manifests as isolated inflammation without atrophy.

Dermatomyositis (Figs. 2, 3): Symmetric involvement but with predominant honeycomb pattern of edema and with characteristic fascial and subcutaneous edema

Inclusion body Myositis (Fig. 4): May have asymmetric involvement with an anterior compartment predominance in the thigh. It usually manifests as predominant atrophy without edema and often shows an undulating fascia sign.

MRI in Myopathies

At a glance:

- Inflammatory myopathies occur as part of connective tissue diseases (polymyositis, dermatomyositis) or later in life (inclusion body myositis)
- MRI has a role to play in diagnosis, determining extent, type, stage and other aspects that impact management.

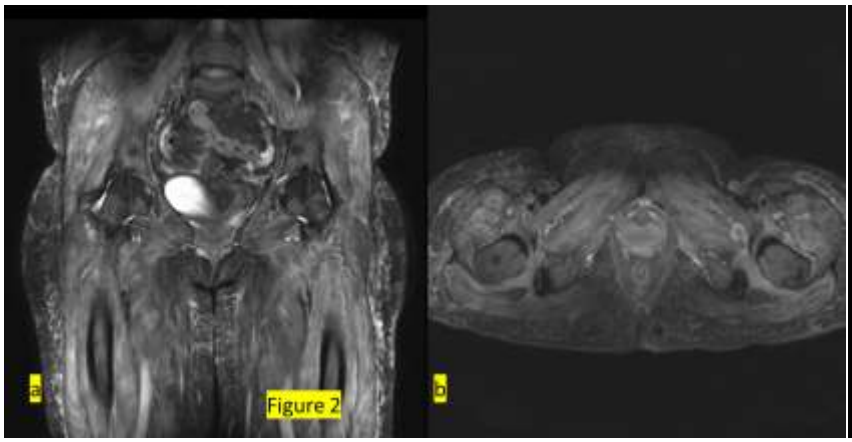

Figure 2 (A,B): Dermatomyositis. Coronal (a) and axial (b) STIR images of the pelvis show almost symmetrical muscle and subcutaneous edema with a honeycomb pattern.

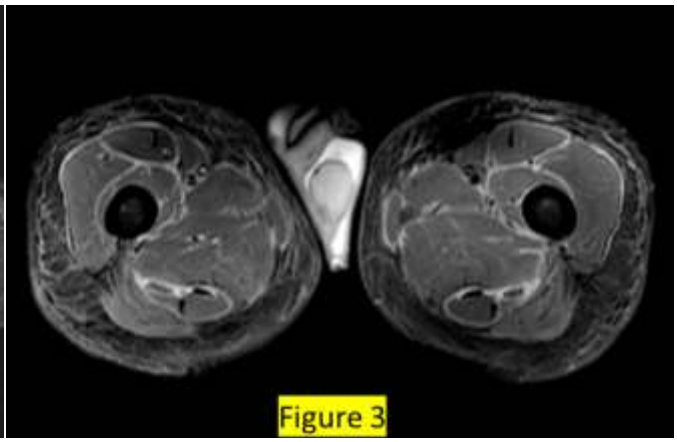

Figure 3: Dermatomyositis. Axial STIR images of both thighs shows characteristic fascial edema.

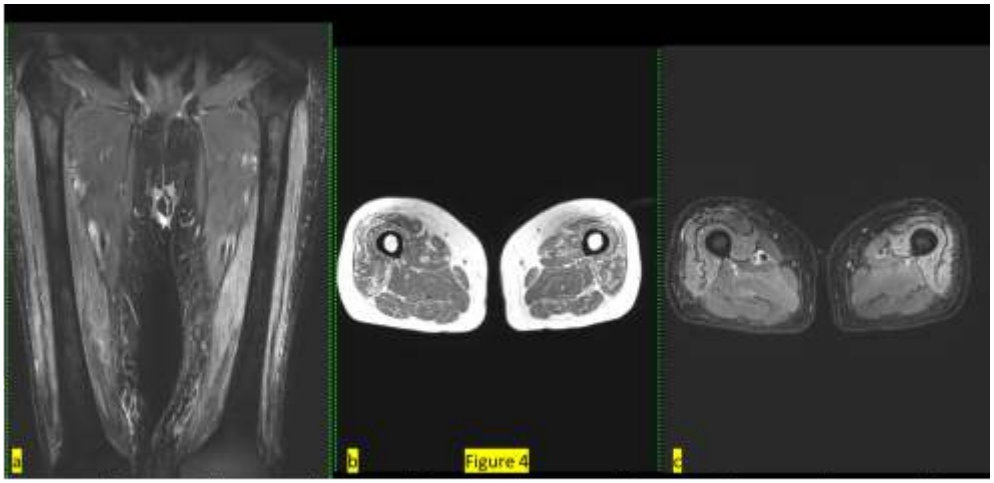

Figure 4 (A-C): Inclusion Body Myositis. Coronal STIR (a) image of both thighs shows distal predominance of edema. Axial T1 (b) and STIR (c) images of both thighs show symmetrical atrophy and fatty infiltration in the anterior compartment muscles (arrows) with the 'undulating fascia sign' (block arrow in c).

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