AMSER Case of the Month October 2025

62-year-old female with enlarging RLE mass

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Patient Presentation

- HPI: 62-year-old female with a 12-year history of progressively enlarging right groin/thigh mass, recurring after excision 3 years prior. Reports severe knee pain bilaterally (10/10), progressive difficulty ambulating, and psychosocial distress (embarrassment, clothing restrictions, reliance on cane).
- PMH: morbid obesity (BMI 65.8 kg/m^2), DM2, HTN, OSA
- PSH: excision of large right leg pendulous lymphedema 3 years ago
- Vitals: within normal limits; weight 163.3 kg; height 152 cm
- PE: Large, pendulous, soft tissue mass arising from the right medial thigh/groin, extending inferiorly between the legs. Overlying skin with thickening but no ulceration or erythema. No overlying fluctuance, warmth, or discrete nodularity.
- Labs: none obtained

What Imaging Should We Order?

ACR Appropriateness Criteria

Variant 1: **Superficial soft tissue mass. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
US area of interest	Usually Appropriate	O
Radiography area of interest	Usually Appropriate	Varies
US area of interest with IV contrast	Usually Not Appropriate	O
Image-guided biopsy area of interest	Usually Not Appropriate	Varies
Image-guided fine needle aspiration area of interest	Usually Not Appropriate	Varies
MRI area of interest without and with IV contrast	Usually Not Appropriate	O
MRI area of interest without IV contrast	Usually Not Appropriate	O
FDG-PET/CT area of interest	Usually Not Appropriate	☢☢☢☢
CT area of interest with IV contrast	Usually Not Appropriate	Varies
CT area of interest without and with IV contrast	Usually Not Appropriate	Varies
CT area of interest without IV contrast	Usually Not Appropriate	Varies

This imaging modality was ordered by the Family Medicine NP. No prior radiograph or US. Typically this is more appropriate after radiography and ultrasound, if nondiagnostic.

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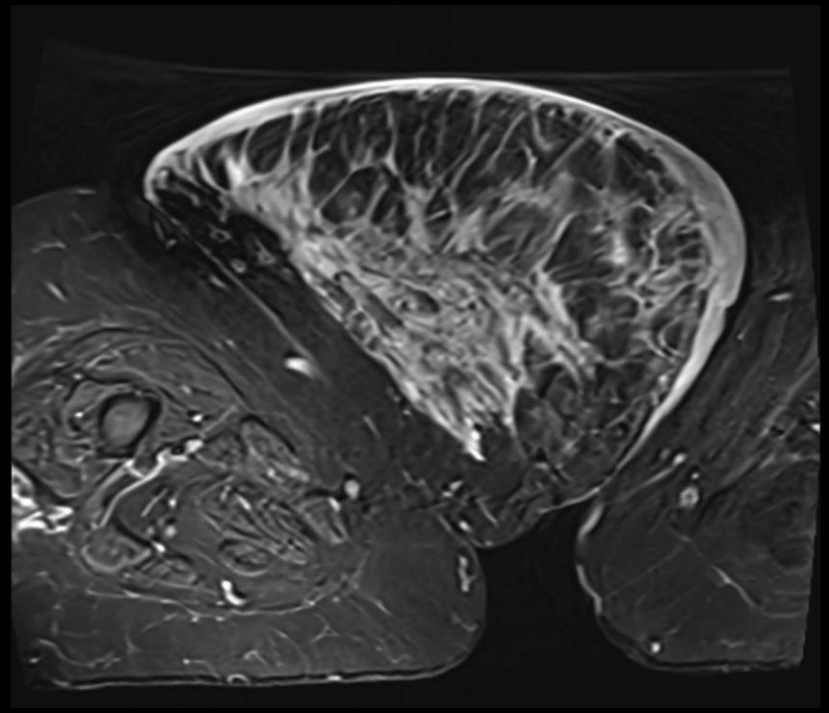
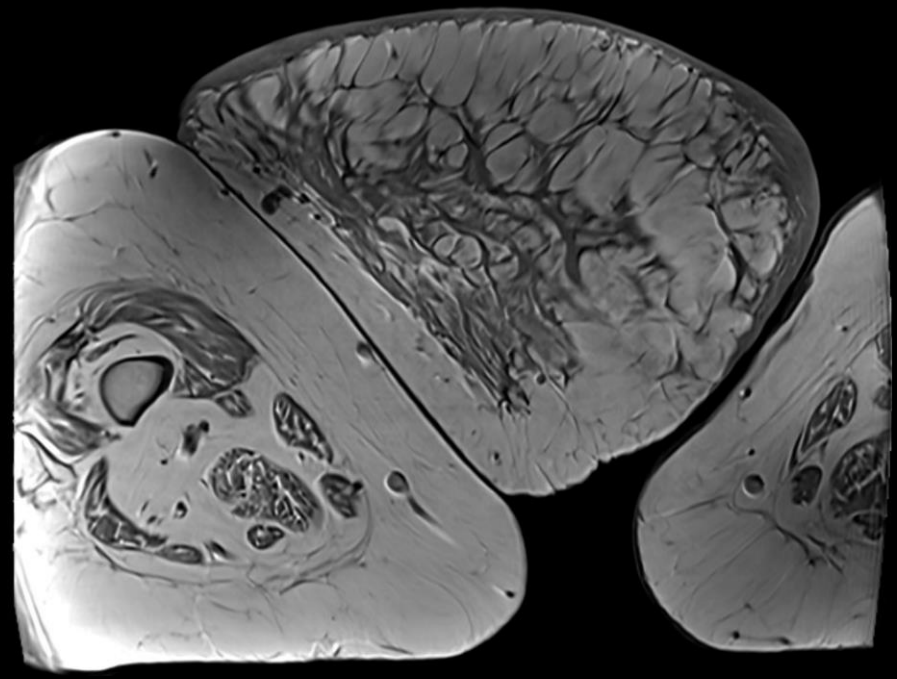
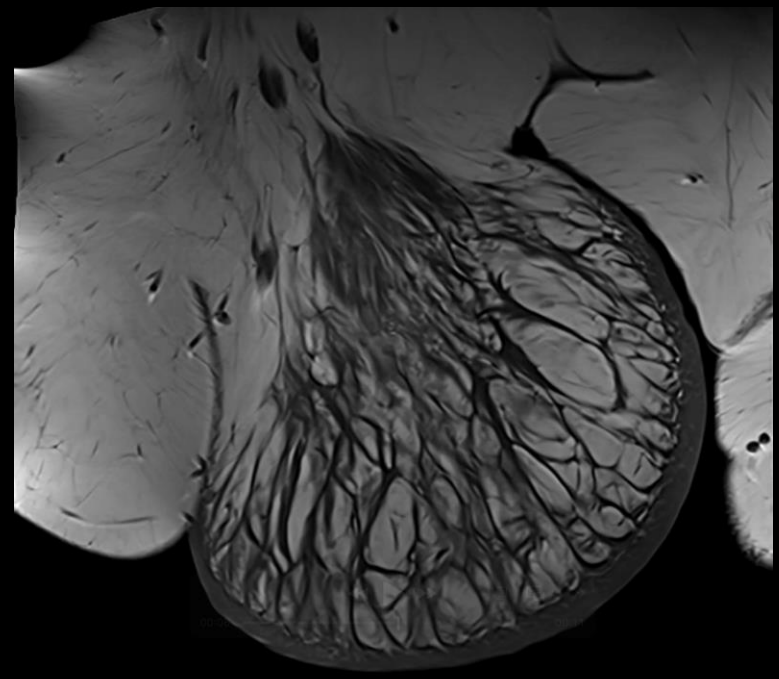
Findings (unlabeled)



Axial STIR

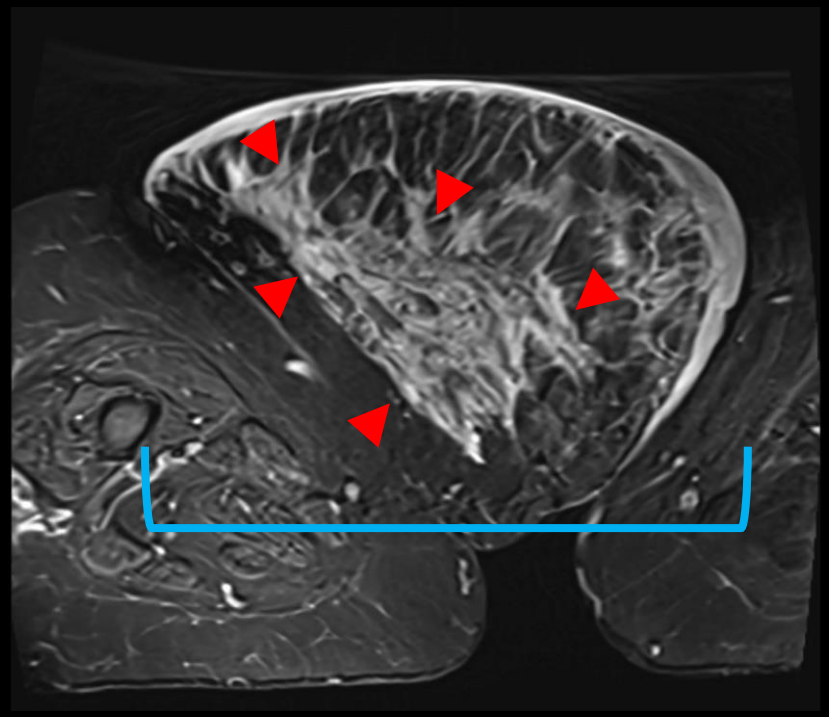


Axial T1



Coronal T1

Findings: (labeled)



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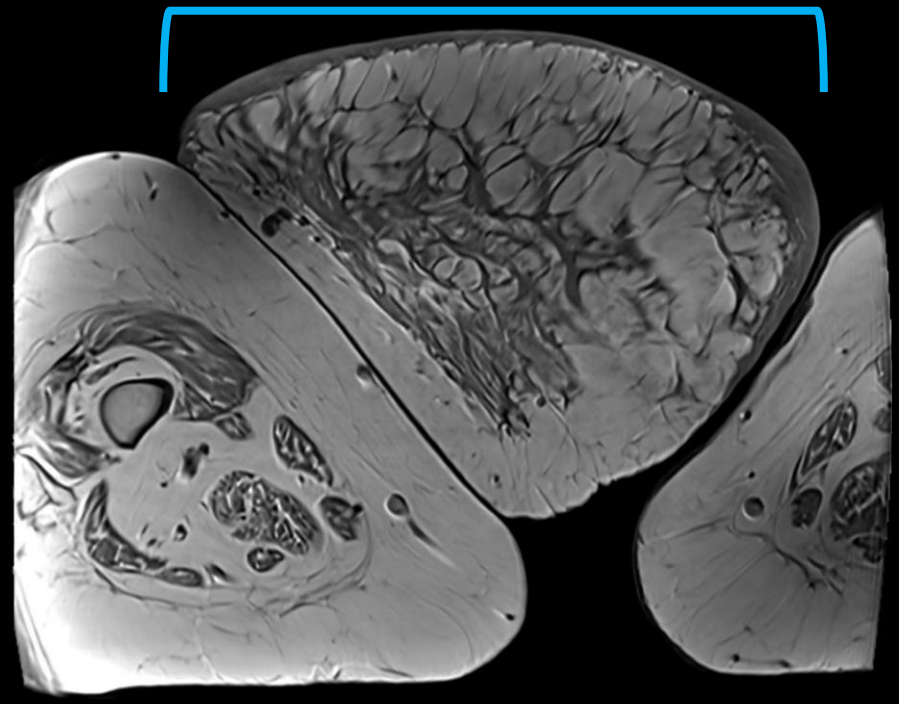
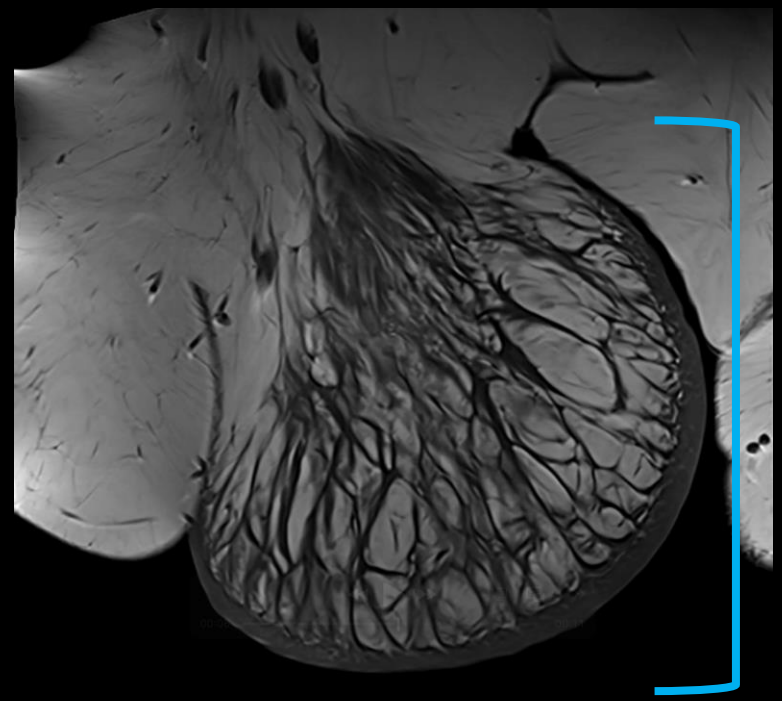


Axial T1



Coronal T1

- Large pedunculated lipomatous mass of the medial proximal right thigh, measuring **~34 × 25 × 21 cm**
- Linear T2 hyperintense signal throughout (▼)
- Contiguous with subcutaneous fat, with overlying skin thickening
- No restricted diffusion. No suspicious enhancement post-contrast
- Comparison with prior 2019 MRI: increased size and amount of linear strands of high T2 signal.

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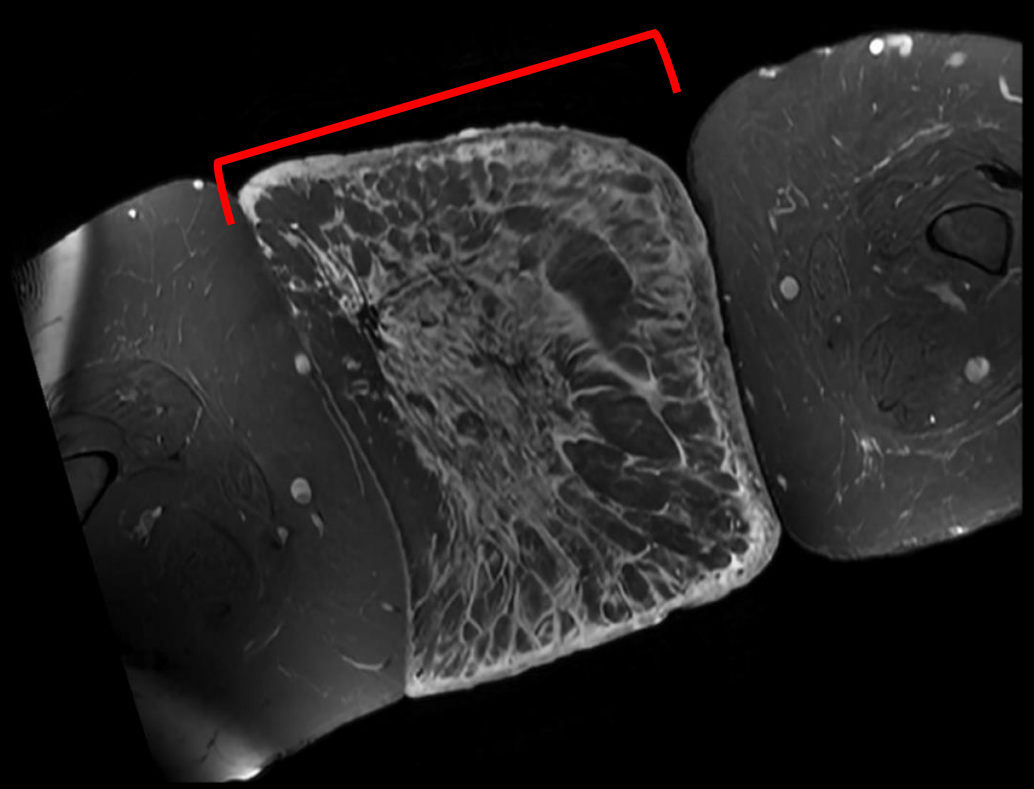
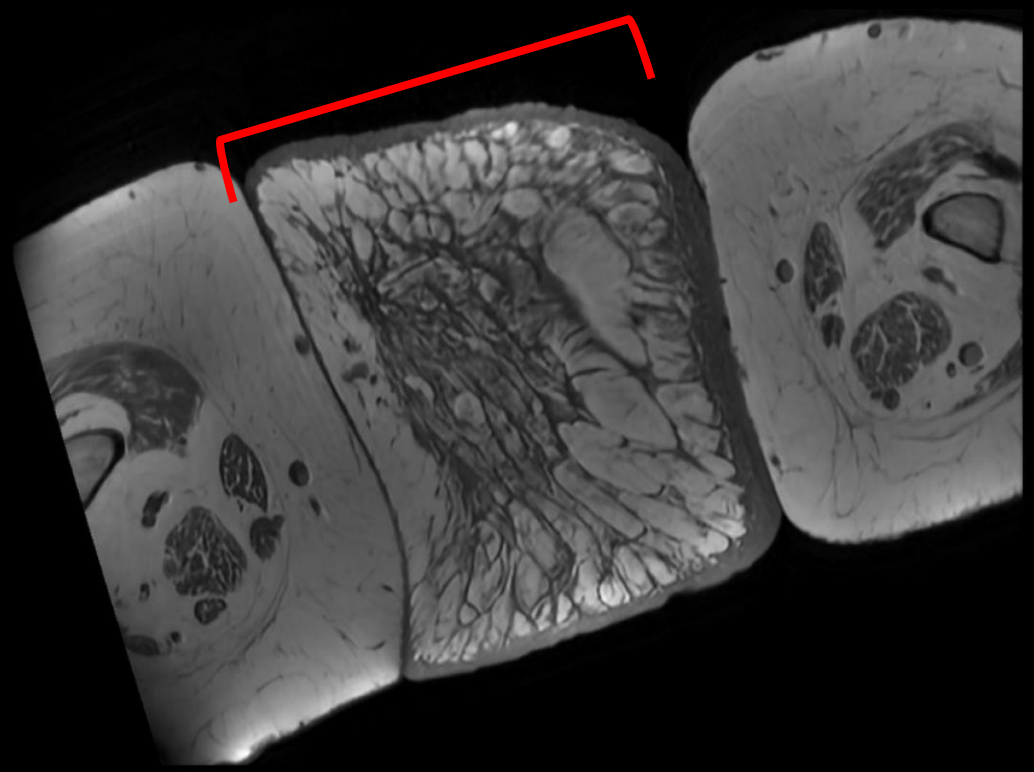
Prior MRI (09/2021)



Axial STIR



Axial T1

- Large pedunculated mass of the medial aspect of the proximal right thigh measuring 18 cm in width, 20 cm in length and 19 cm in AP dimension.

Final Dx:

Pseudosarcoma of Obesity (Massive Localized Lymphedema)

Case Discussion

Definition & Epidemiology

- Pseudosarcoma of obesity, also termed massive localized lymphedema (MLL), is a benign, non-neoplastic overgrowth of edematous and fibrotic adipose tissue almost exclusively seen in patients with morbid obesity.
- It typically arises in middle-aged to older adults with BMI >40 kg/m^2, and has a strong predilection for those with BMI >56 kg/m^2.
- A slight female predominance is reported, with common comorbidities including diabetes, hypertension, and cardiovascular disease. The most frequent sites are the medial thigh, lower abdomen, and mons pubis.

Case Discussion (Continued)

Imaging Appearance

- On MRI and CT, MLL presents as a large, poorly circumscribed, pedunculated subcutaneous mass that demonstrates:
  - Predominantly fat signal/attenuation
  - Thickened fibrous septa and lace-like edema tracking along septae
  - Overlying dermal thickening and skin changes
  - Minimal to absent contrast enhancement
  - No restricted diffusion or invasive features
- These findings distinguish MLL from soft tissue sarcomas, which are more likely to demonstrate nodularity, solid enhancing components, and local invasion.

Case Discussion (Continued)

Differential Diagnosis

- The most important differential is atypical lipomatous tumor/well-differentiated liposarcoma. Clinical context (morbid obesity, slow growth over years, chronicity) and lack of aggressive imaging features favor MLL. Biopsy may still be required if malignancy cannot be confidently excluded.

Clinical Implications

- Recognition of MLL is essential to prevent unnecessary radical sarcoma surgery. Management is primarily surgical excision for symptomatic relief (pain, mobility impairment, psychosocial burden), although recurrence is common. Prognosis is generally favorable. Rarely, chronic lymphedema has been associated with secondary angiosarcoma, but this remains anecdotal.

References:

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