

AMSER Case of the Month

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73 year-old Female with Right Gluteal Pain

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AMSER

Patient Presentation

73 year-old female presents after palpating a mass in the right buttock.

Primary complaint is localized pain, swelling, and lump over the right gluteal region.

Significant past medical includes a history of cervical cancer.

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

American College of Radiology
 ACR Appropriateness Criteria®
 Soft-Tissue Masses

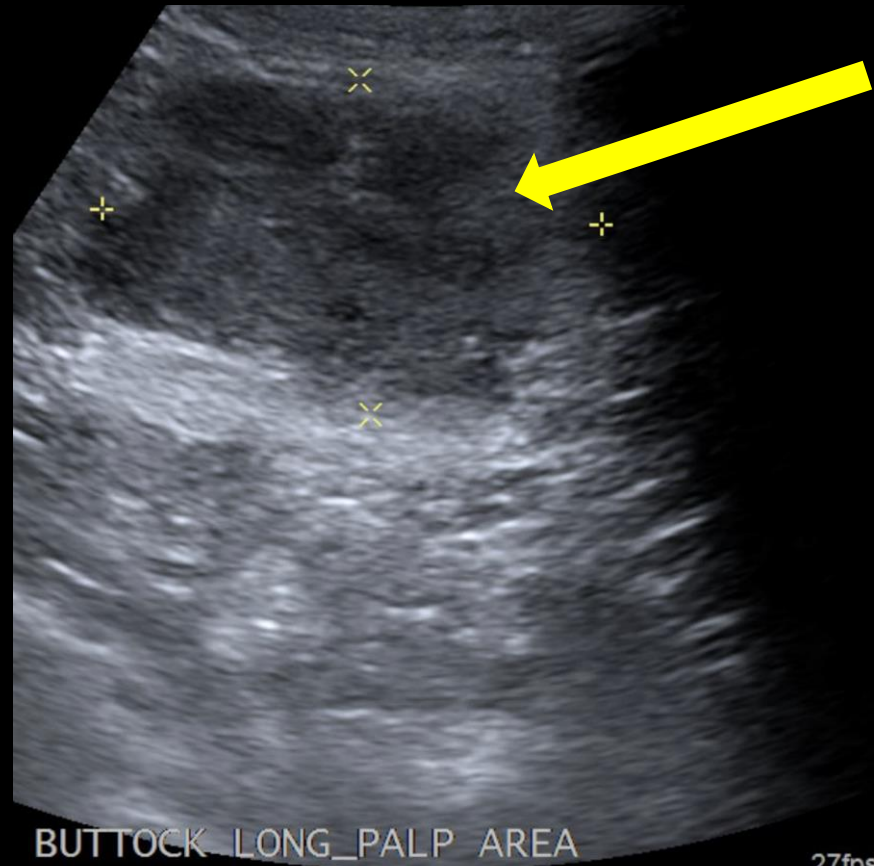
Variant 1: Soft-tissue mass. Superficial or palpable. Initial imaging study.

Procedure	Appropriateness Category	Relative Radiation Level
X-ray area of interest	Usually Appropriate	Varies
US area of interest	Usually Appropriate	0
MRI area of interest without IV contrast	May Be Appropriate (Disagreement)	0
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
FDG-PET/CT area of interest	Usually Not Appropriate	☢☢☢☢
MRI area of interest without and with IV contrast	Usually Not Appropriate	0

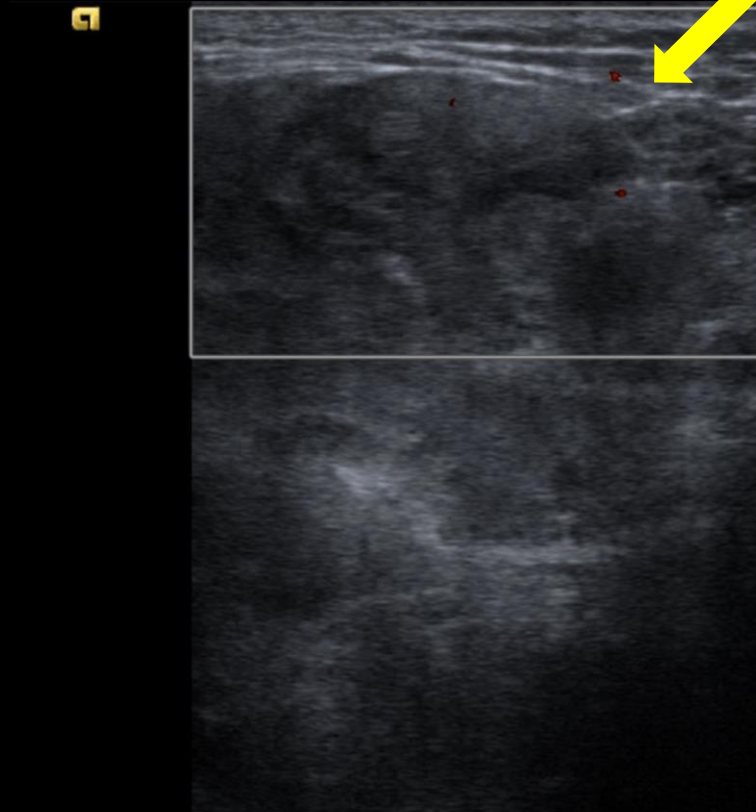
This imaging modality was ordered by the physician.

Ultrasound Findings (labeled)

Color Doppler demonstrates blood flow to the mass.



6 cm solid subcutaneous mass in the right gluteal region.



RT BUTTOCK_TRAN_PALP AREA

7fps

Select the applicable ACR Appropriateness Criteria

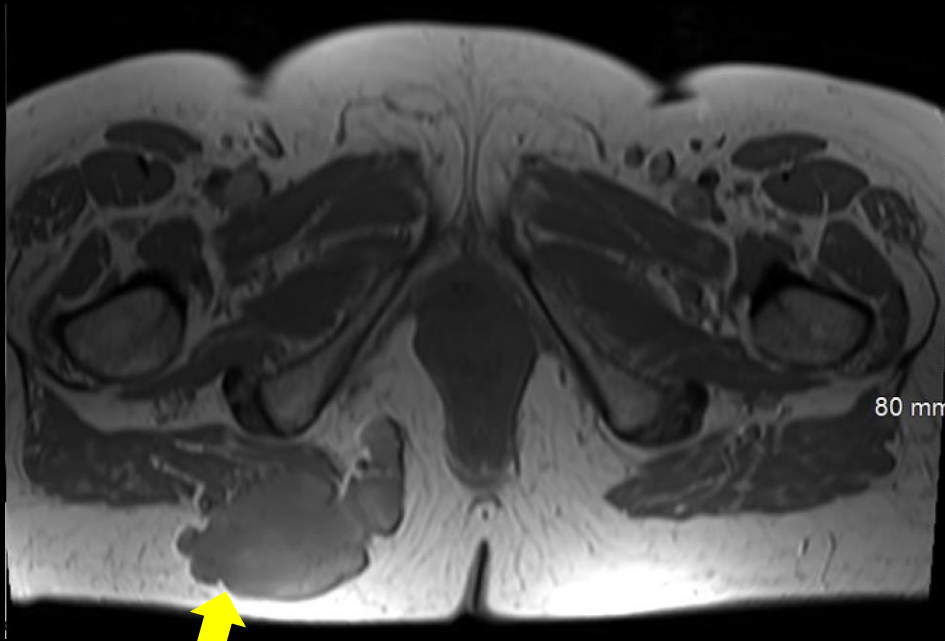
Variant 3: **Soft-tissue mass. Nondiagnostic initial evaluation (ultrasound and/or radiograph). Next imaging study.**

Procedure	Appropriateness Category	Relative Radiation Level
MRI area of interest without and with IV contrast	Usually Appropriate	○ ←
MRI area of interest without IV contrast	Usually Appropriate	○
CT area of interest with IV contrast	May Be Appropriate (Disagreement)	Varies
CT area of interest without IV contrast	May Be Appropriate	Varies
CT area of interest without and with IV contrast	Usually Not Appropriate	Varies
FDG-PET/CT area of interest	Usually Not Appropriate	☢☢☢☢

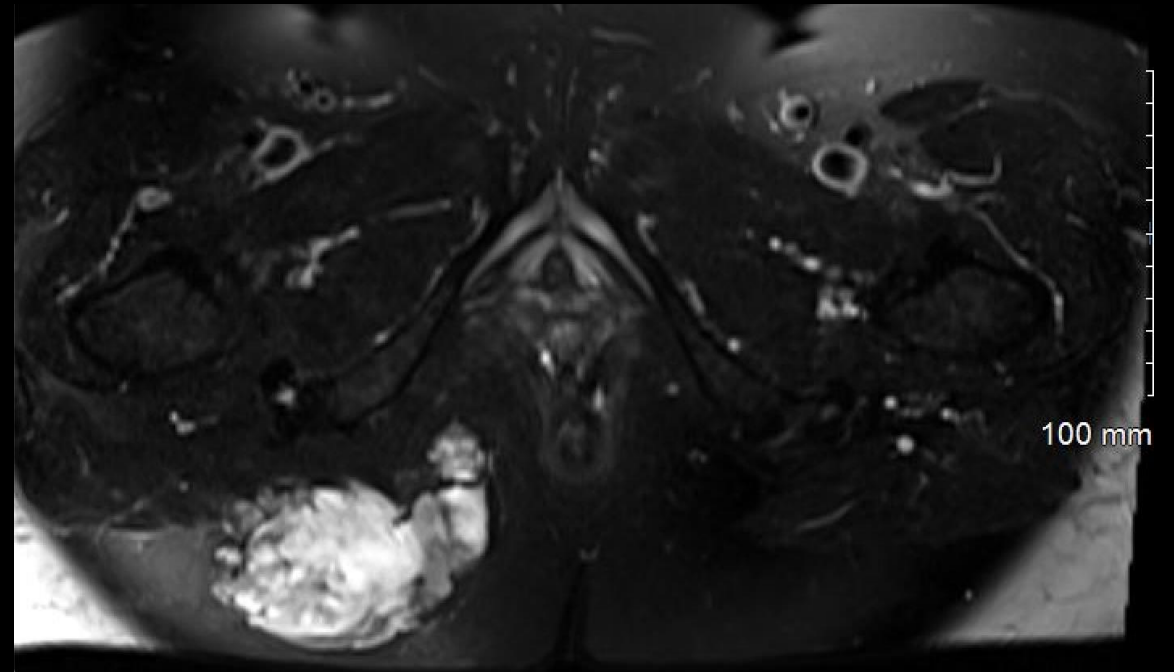
This imaging was recommended by the radiologist due to findings of a solid, soft tissue mass.

Soft tissue is best assessed by MRI, making it a better choice than CT.

MRI Findings (labeled)

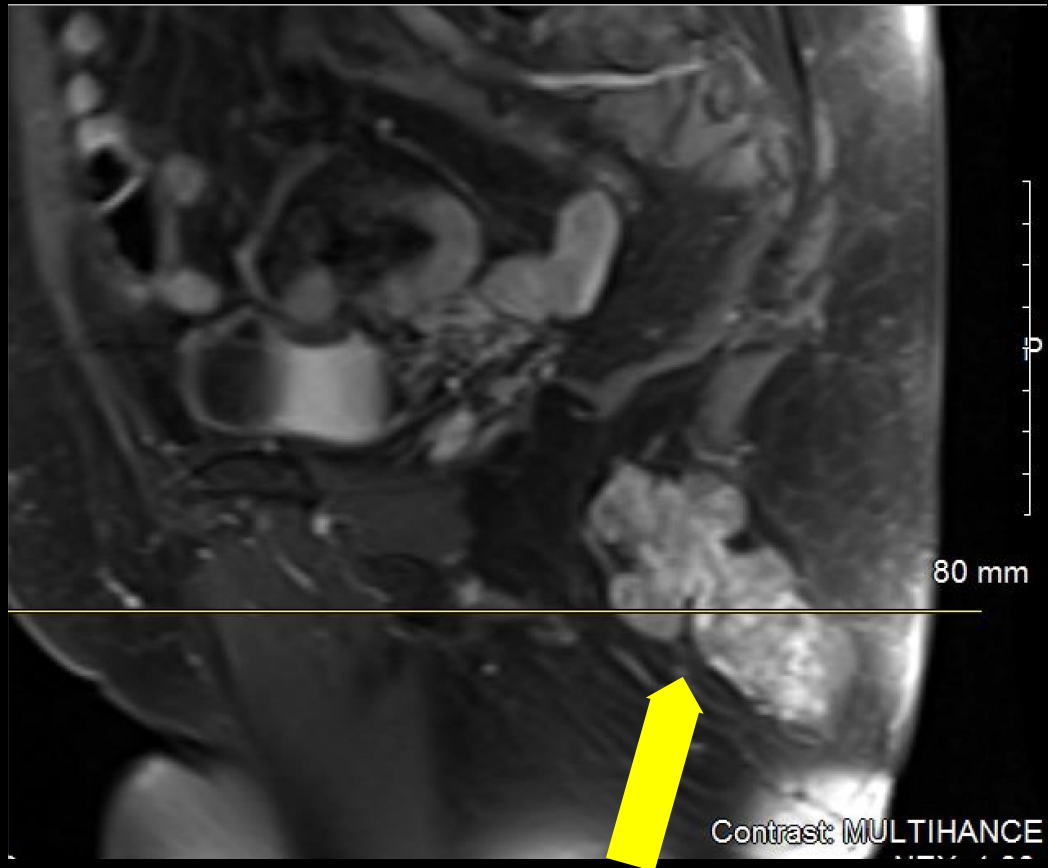


Axial T1 image demonstrates a 9.7cm subcutaneous mass with mixed increased and decreased T1 signal compared to skeletal muscle.

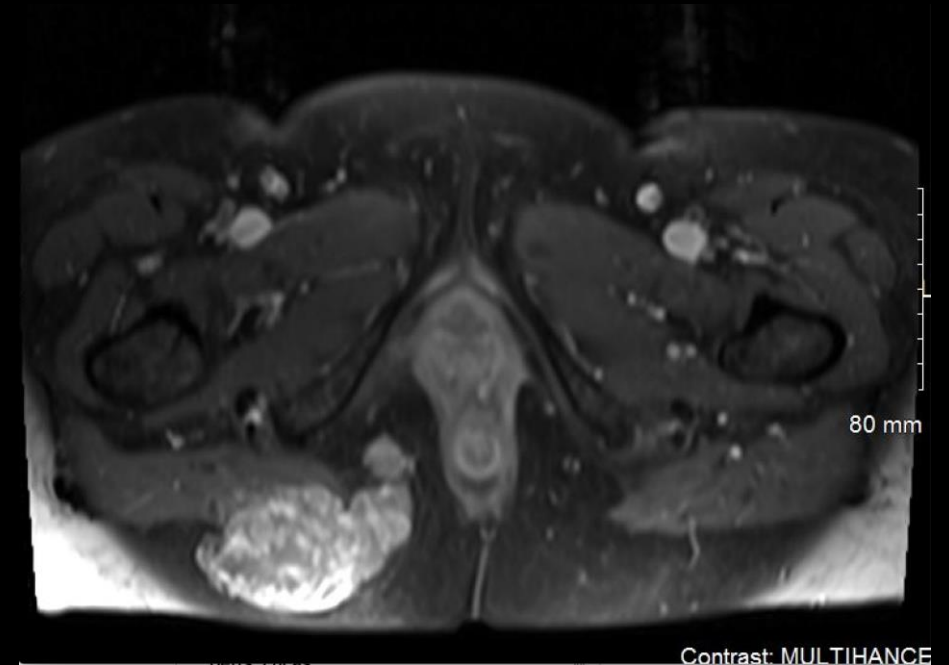


Axial fat-suppressed T2 image demonstrates a predominantly T2 hyperintense subcutaneous mass extending into the ischioanal fossa.

MRI Findings (labeled)



Sagittal post contrast fat-suppressed T1 image demonstrates a large enhancing mass without extension to the skin or involvement of the bone.



Axial post contrast fat-suppressed T1 image demonstrates a predominantly enhancing mass with areas of central necrosis abutting the right gluteus maximus muscle.

CT Biopsy

CT biopsy was ordered based on MRI findings suggestive of sarcoma.

Pathology was unable to classify the sample.

The patient proceeded to wide local surgical excision of the mass.

Case Discussion

Extraskeletal myxoid chondrosarcoma (EMC) is an extremely rare, low-grade malignant mesenchymal neoplasm with uncertain differentiation.

EMC mostly arises in the deep soft tissues of the proximal extremities and limb girdles of middle-aged adults.

EMC tends to locally recur (37-48%) and is highly metastatic (50%), usually pulmonary.

EMC is characterized by rearrangement of NR4A3 gene which is usually fused with EWSR1 gene.

Diagnosis must be confirmed molecularly by RT-PCR looking for reported translocations.

References

1. Stacchiotti S, Baldi GG, Morosi C, Gronchi A, Maestro R. Extraskeletal Myxoid Chondrosarcoma: State of the Art and Current Research on Biology and Clinical Management. *Cancers (Basel)*. 2020 Sep 21;12(9):2703. doi: 10.3390/cancers12092703.
2. Ling Zhang, Ruoning Wang, Rong Xu, Genggeng Qin, Lei Yang, "Extraskeletal Myxoid Chondrosarcoma: A Comparative Study of Imaging and Pathology", *BioMed Research International*, vol. 2018, Article ID 9684268, 9 pages, 2018. <https://doi.org/10.1155/2018/9684268>
3. Biradar S, Joshi S, Panchwagh Y, Ghanekar V, Kothadiya P. Extraskeletal Myxoid Chondrosarcoma- Rare 'Non-chondroid' soft tissue Sarcoma!!!. *Journal of Bone and Soft Tissue Tumors* Jan-Apr 2016;2(1):36-38 .
4. acsearch.acr.org. (n.d.). https://acsearch.acr.org/list?_ga=2.115429955.457950879.1621999195-206512802.1621999195.