

AMSER Case of the Month

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13-year-old female presenting with painful axillary mass

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Patient Presentation

- A 13-year-old female presented to pediatric surgeon's office with a right axillary mass that had been present for 1.5 years.
- The mass had caused intermittent pain and erythema, which occasionally resolved with antibiotic treatment but recurred after treatment ended.
- The patient noticed that the mass had grown from 2 cm to 5 cm.
- The pain began to radiate down her right breast.
- She reported no changes to her health, no night sweats or fevers, no exposure to cats, and a regular menstrual cycle.
- Physical exam revealed an extremely tender, soft, non-mobile 4 cm x 5 cm mass with indistinct borders, normal overlying skin, and no drainage.

Pertinent Labs

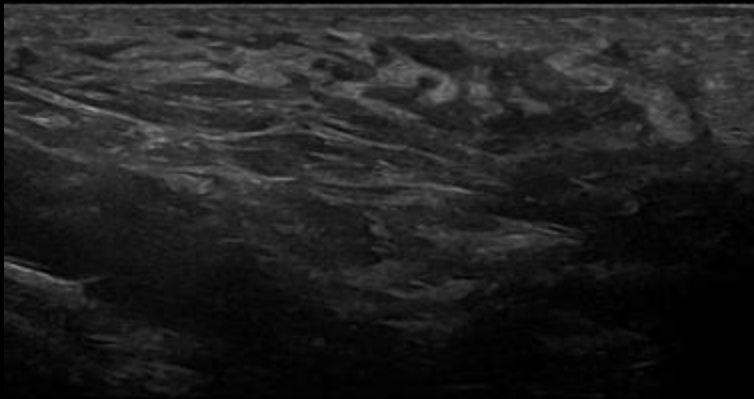
- Normal CBC, CRP, ESR, LDH

What Imaging Should We Order?

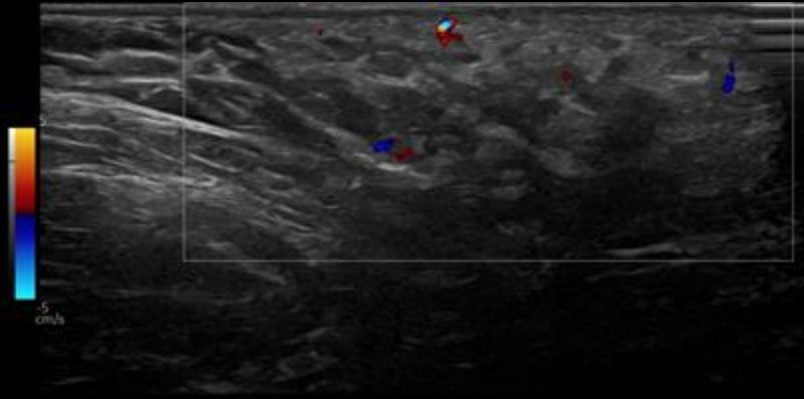
Select the applicable ACR Appropriateness Criteria

Scenario ID	Procedure	Adult RRL	Peds RRL	Appropriateness Category
3194815	  US axilla	0 mSv O	0 mSv [ped] O	Usually appropriate
	 Digital breast tomosynthesis diagnostic	0.1-1mSv ⊗⊗		May be appropriate
	 Mammography diagnostic	0.1-1mSv ⊗⊗		May be appropriate
	 MRI breast without and with IV contrast	0 mSv O	0 mSv [ped] O	Usually not appropriate
	 MRI breast without IV contrast	0 mSv O	0 mSv [ped] O	Usually not appropriate
	 Sestamibi MBI	1-10 mSv ⊗⊗⊗		Usually not appropriate
	 CT chest abdomen pelvis with IV contrast	10-30 mSv ⊗⊗⊗⊗	3-10 mSv [ped] ⊗⊗⊗⊗	Usually not appropriate
	 CT chest abdomen pelvis without and with IV contrast	10-30 mSv ⊗⊗⊗⊗	10-30 mSv [ped] ⊗⊗⊗⊗⊗	Usually not appropriate
	 CT chest abdomen pelvis without IV contrast	10-30 mSv ⊗⊗⊗⊗	3-10 mSv [ped] ⊗⊗⊗⊗	Usually not appropriate
	 FDG-PET/CT skull base to mid-thigh	10-30 mSv ⊗⊗⊗⊗	3-10 mSv [ped] ⊗⊗⊗⊗	Usually not appropriate

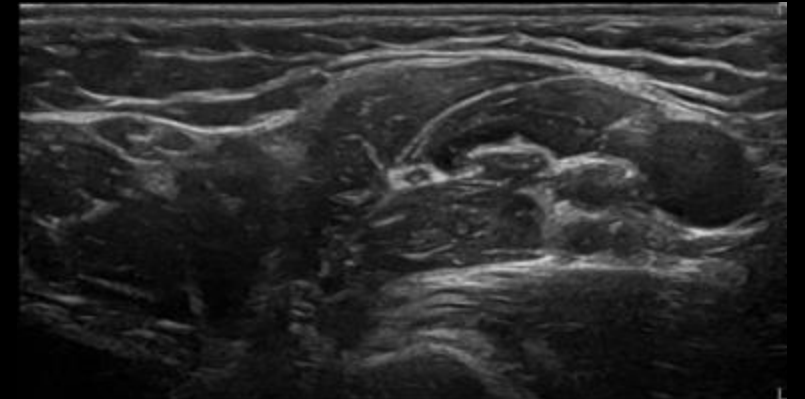
Findings (unlabeled)



RIGHT AXILLA SAG LAT-MED

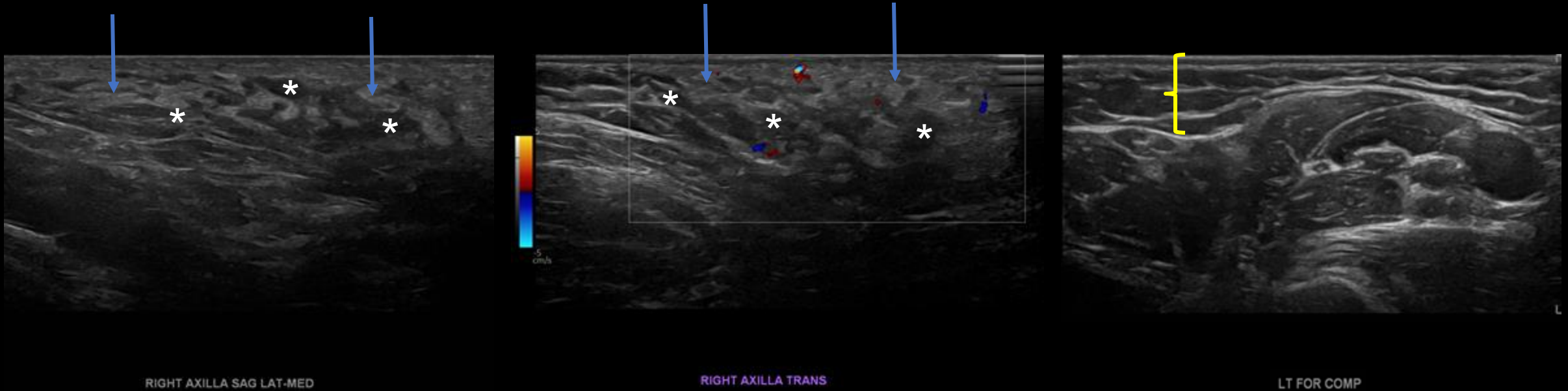


RIGHT AXILLA TRANS



LT FOR COMP

Findings (labeled)

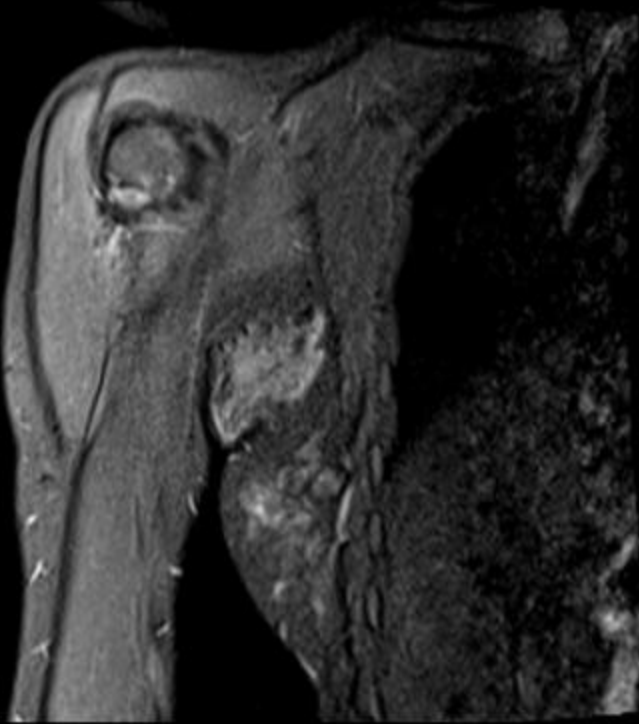


Grayscale and color Doppler images of the right axilla (left and middle panels) demonstrate an ill-defined region of interwoven echogenic (blue arrows) and hypoechoic tissue (*) within the superficial subcutaneous tissues. There is no hypervascularity or a discrete mass. This appearance can be seen with glandular tissue. Comparison imaging of the left axilla (right panel) shows normal subcutaneous tissue (yellow brace).

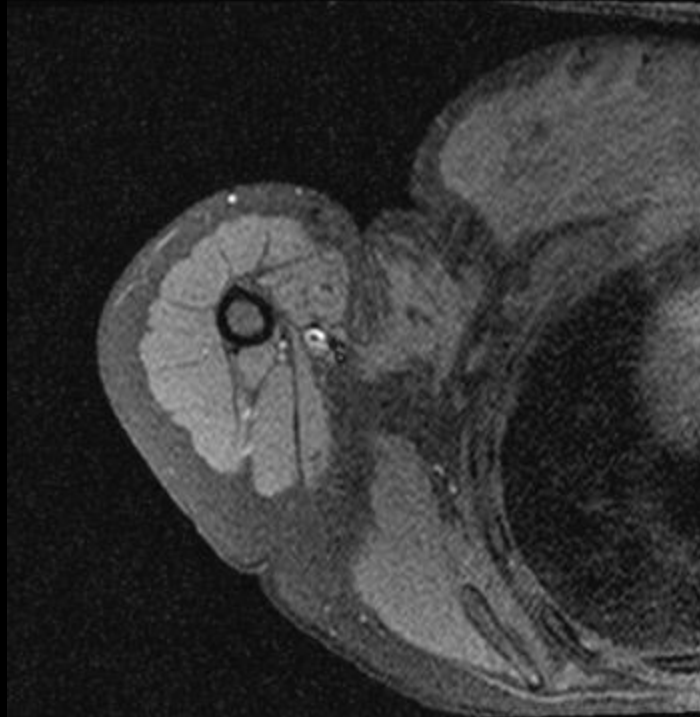
What Additional Imaging Should We Order?

As the ultrasound did not clearly characterize the nature of the palpable abnormality, contrast enhanced MRI of the axilla was ordered.

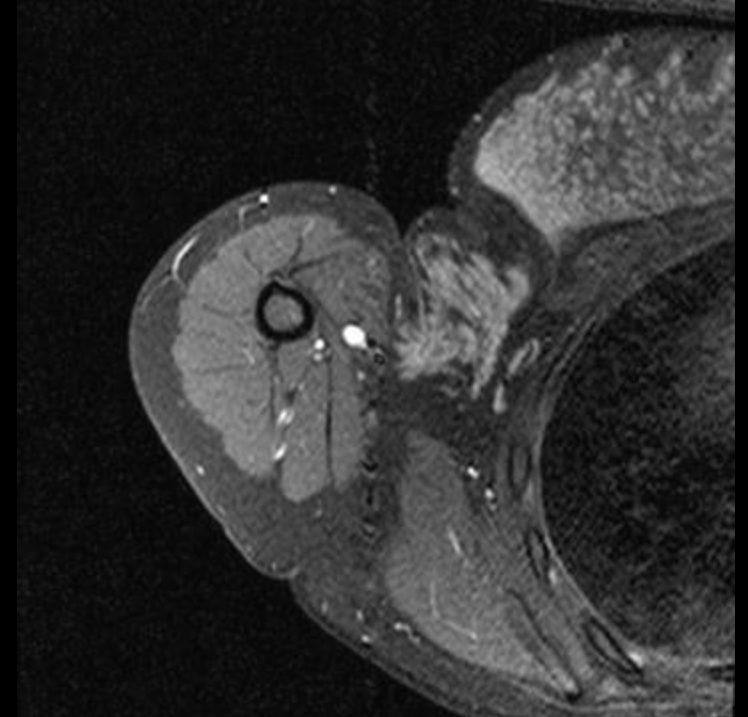
Findings (unlabeled)



Coronal STIR

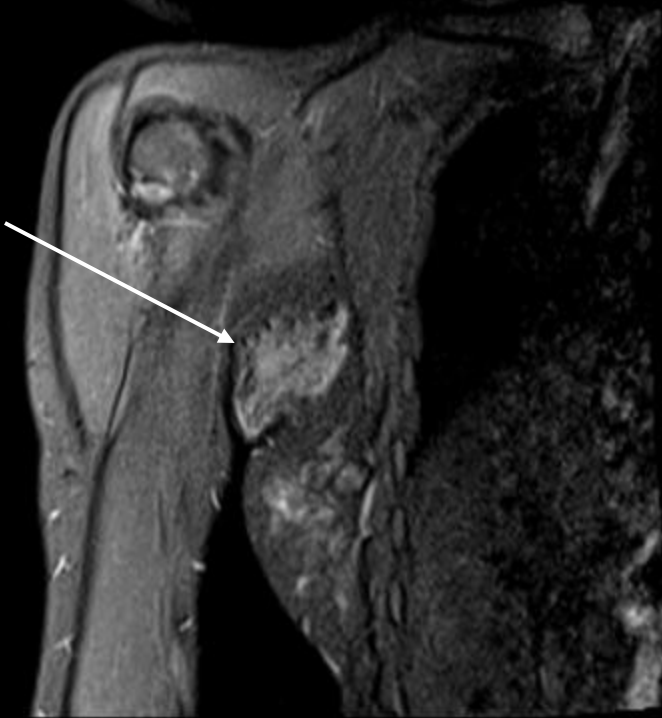


Axial Fat-Suppressed T1-weighted precontrast



Axial Fat-Suppressed T1-weighted postcontrast

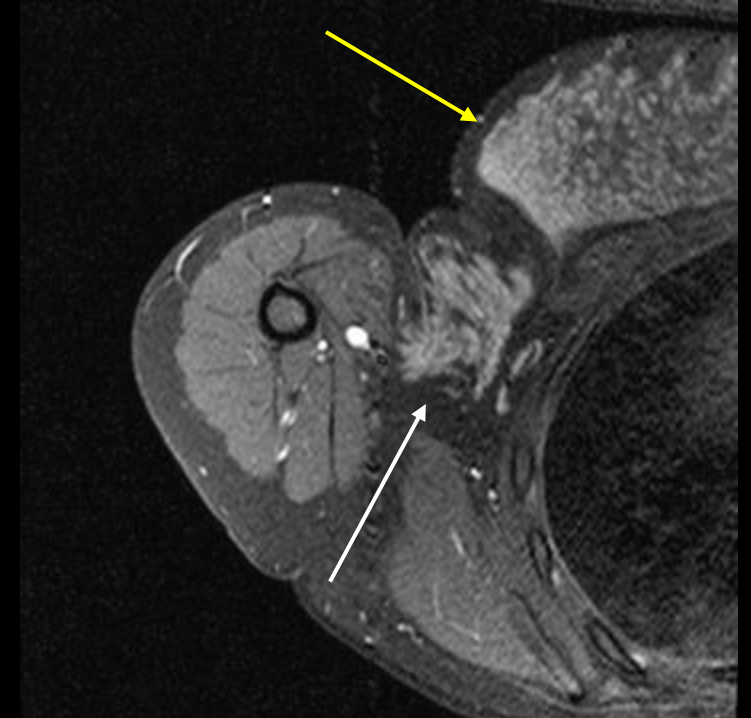
Findings (labeled)



Coronal STIR



Axial Fat-Suppressed T1-weighted precontrast



Axial Fat-Suppressed T1-weighted postcontrast

MRI of the right axilla reveals an irregular T2 hyperintense region (white arrows) with postcontrast enhancement that is near identical to the imaging characteristics of the adjacent breast tissue (yellow arrows), consistent with accessory breast tissue.

Final Dx:

Accessory axillary breast tissue

Case Discussion

- Accessory breast tissue has an incidence of 2-6% in women and 1-3% in men and is more commonly reported in people of Asian ethnicity.¹
- During gestational development, ectoderm forms a primitive milk streak that extends from the axilla to the inguinal region. Persistent remnants of this mammary ridge can result in accessory breast tissue.²
- Most women remain asymptomatic until the presence of hormone fluctuations such as puberty, menarche, pregnancy, or lactation.^{2,3}
- Common symptoms include swelling or tenderness of the region limiting function and range of motion.³
- Differential diagnosis for presentation of unilateral axillary mass in female teenagers includes lymphadenopathy, lipoma, fibroadenoma, cyst, abscess, or soft tissue neoplasm.^{4,5}

Case Discussion

- Treatment options are selected based on individual factors such as skin laxity and tissue type (fat, glandular tissue, accessory nipple).
- Different forms of management include:
 - Nonsurgical: cryolipolysis, injectable deoxycholic acid
 - Surgical: liposuction, excision, or combination of the two⁶
 - Preferred method of treatment³
- Treatment is not necessary but often performed due to discomfort or for cosmetic purposes.⁷
- Due to varied presentation, accessory breast tissue is often misdiagnosed, contributing to delays in diagnosis/treatment.

References:

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2. Laor T, Collins MH, Emery KH, Donnelly LF, Bove KE, Ballard ET. MRI appearance of accessory breast tissue: a diagnostic consideration for an axillary mass in a peripubertal or pubertal girl. *AJR Am J Roentgenol.* 2004;183(6):1779-1781. doi:10.2214/ajr.183.6.01831779
3. Patel PP, Ibrahim AM, Zhang J, Nguyen JT, Lin SJ, Lee BT. Accessory breast tissue. *Eplasty.* 2012;12:ic5.
4. Kennedy RD, Boughey JC. Management of pediatric and adolescent breast masses. *Semin Plast Surg.* 2013;27(1):19-22. doi:10.1055/s-0033-1343991
5. de Andrade JM, Marana HR, Sarmento Filho JM, Murta EF, Velludo MA, Bighetti S. Differential diagnosis of axillary masses. *Tumori.* 1996;82(6):596-599. doi:10.1177/030089169608200617
6. Kurtzman JS, Pinkasovic E, Preminger BA. Treatment Options for the Clinical Management of Axillary Breast Tissue. *Plast Reconstr Surg Glob Open.* 2023;11(8):e5189. Published 2023 Aug 22. doi:10.1097/GOX.0000000000005189
7. Walker N, Capiro N. Case: Accessory Breast Tissue. UCLA Health Department of Radiology. Accessed July 1, 2026. <https://www.uclahealth.org/departments/radiology/education/breast-imaging-teaching-resources/cases /accessory-breast-tissue>