

# AMSER Case of the Month

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53-year-old male presenting with mass in the scrotum

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# Patient Presentation

- **HPI:** A 53-year-old patient presented with a scrotal mass that had been present for 1 month. He initially noticed the mass while bathing. The mass is adjacent to the right testicle, is not painful, and has not changed in size. No recent scrotal trauma or infection. Associated urinary frequency and diarrhea. Denies fever, chills, SOB, nausea/vomiting, swelling of scrotum, pain with urination, urethral discharge. Also denies new sexual partners. Patient notes recently finishing a course of Bactrim for cellulitis of his hand. No other reported symptoms or recent illness.

# Patient Presentation cont.

- **Past Medical Hx:** Anxiety, arthritis, coronary artery disease, hyperlipidemia, hypertension, sleep apnea
- **Surgical Hx:** L knee arthroscopy, R temporomandibular joint, vasectomy
- **Social Hx:** Former smoker, drinks 6-12 alcoholic drinks per week
- **Family Hx:** CAD on maternal side
- **Daily Medications:** Aspirin 81mg, Atorvastatin 80mg, Metoprolol 25mg BID, Sertraline 75mg

# Patient Presentation cont.

- **Vitals:** Stable, unremarkable
- **Physical Exam:** No acute distress. No abnormalities on cardiovascular and pulmonary exam.
- **Genitourinary exam:** The scrotum is slightly larger on the right side than left. No erythema of scrotum. Right scrotal mass is palpated just below the right testicle, is medium density, nontender, and is 1 inch in diameter. Cremasteric reflex is present. Exam otherwise unremarkable.
- **Labs:** Basic metabolic panel and urinalysis with reflex culture returned unremarkable.

What Initial Imaging Should We Order?

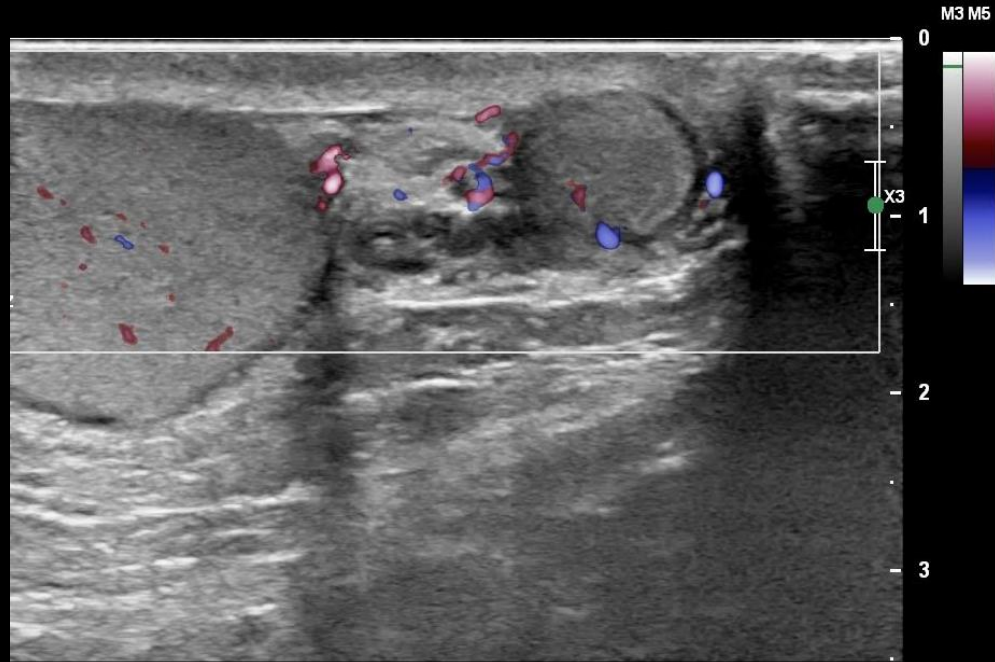
# Select the applicable ACR Appropriateness Criteria

**Variant 2:** Newly diagnosed palpable scrotal abnormality. No history of trauma or infection. Initial imaging.

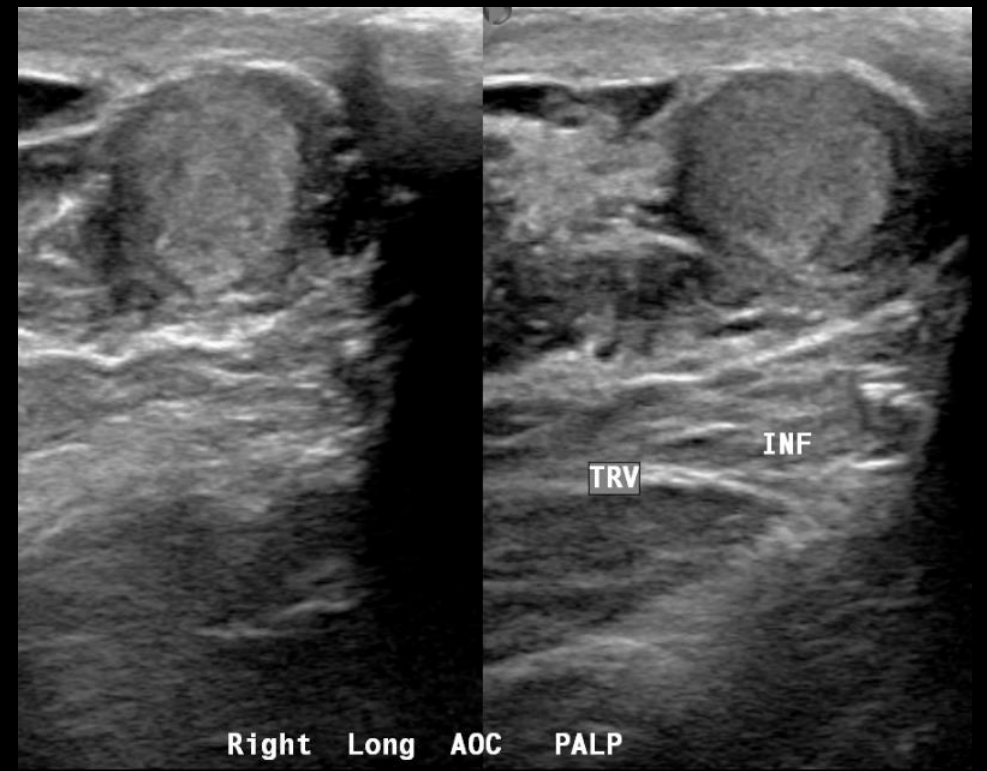
Procedure	Appropriateness Category	Relative Radiation Level
US duplex Doppler scrotum	Usually Appropriate	0
US scrotum	Usually Appropriate	0
MRI pelvis (scrotum) without and with IV contrast	May Be Appropriate	0
MRI pelvis (scrotum) without IV contrast	May Be Appropriate	0
CT abdomen and pelvis with IV contrast	Usually Not Appropriate	☼☼☼
CT abdomen and pelvis without IV contrast	Usually Not Appropriate	☼☼☼
CT pelvis with IV contrast	Usually Not Appropriate	☼☼☼
CT pelvis without IV contrast	Usually Not Appropriate	☼☼☼
CT abdomen and pelvis without and with IV contrast	Usually Not Appropriate	☼☼☼☼
CT pelvis without and with IV contrast	Usually Not Appropriate	☼☼☼☼
MRI abdomen and pelvis without and with IV contrast	Usually Not Appropriate	0
MRI abdomen and pelvis without IV contrast	Usually Not Appropriate	0
Nuclear medicine scan scrotum	Usually Not Appropriate	☼☼☼

Scrotal ultrasound was ordered by primary care physician. Subsequent MRI pelvis/ scrotum was recommended by radiologist based on US findings

# Findings (unlabeled)

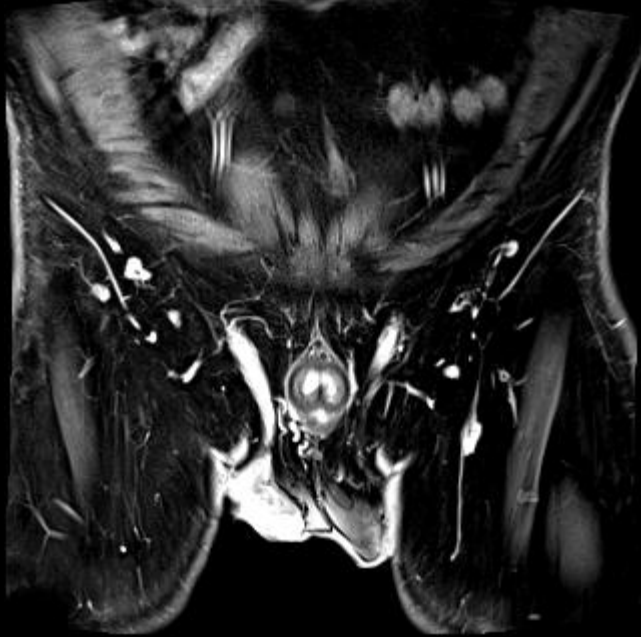


Right Long AOC PALP



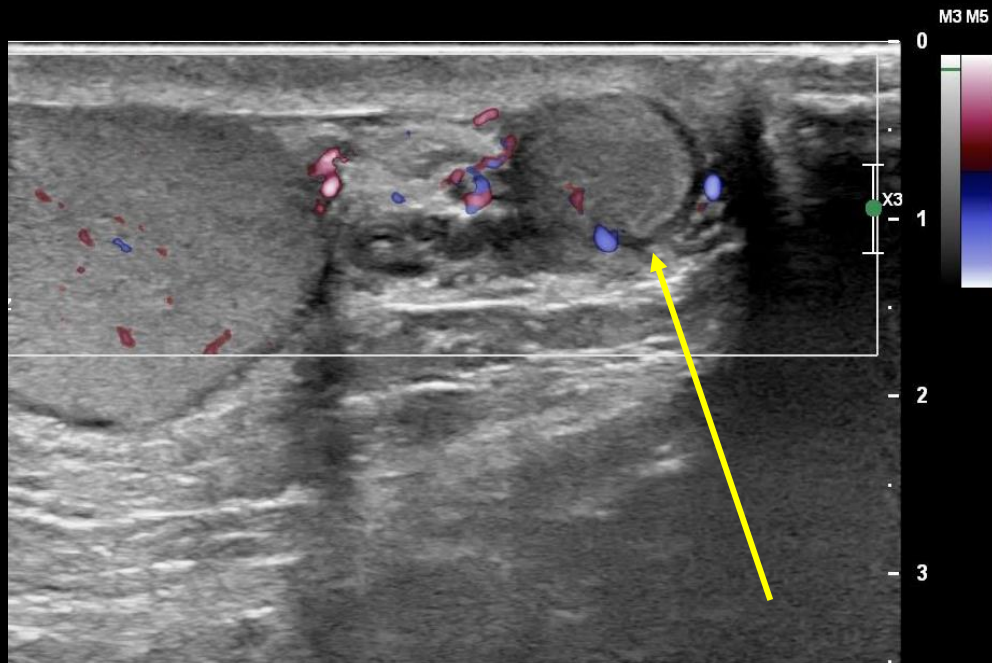
Right Long AOC PALP

# Findings (unlabeled)

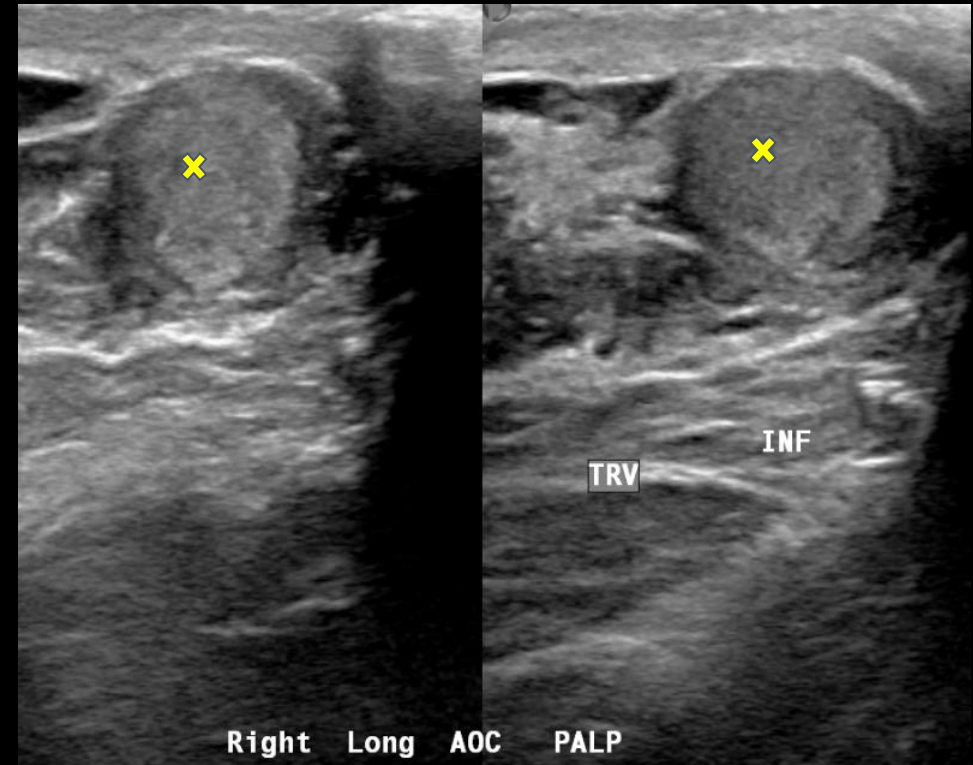




# Findings (labeled)



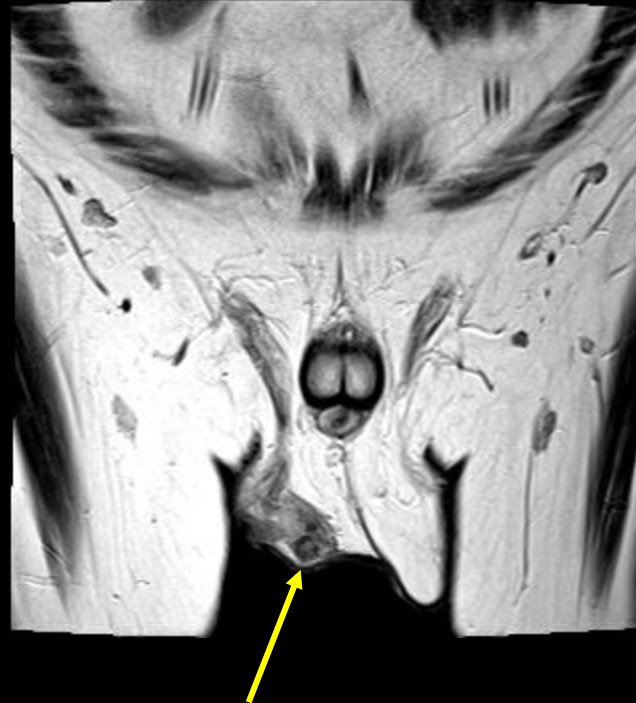
Right Long AOC PALP



Right Long AOC PALP

Scrotal ultrasound shows right testis measuring 4.5 x 2.3 x 3.0 cm with normal echogenicity. Adjacent to the right testicle in the inferior right hemiscrotum is a round, circumscribed, solid, homogeneous soft tissue mass measuring 1 cm, isoechoic to the adjacent right testis. Doppler flow noted in this lesion.

# Findings (labeled)



Coronal T1 fat saturated contrast enhanced image shows 1.3 x 1.1 cm enhancing round mass in the inferior right hemiscrotum, located in right epididymal tail (a). Mass is T2 hypointense on coronal T2W (b) and axial T2W (c) images.

## Findings/Follow Up

- Patient followed up with urology for removal of the right scrotal mass without complications. Intraoperatively, there was fullness of the right epididymal head and the right epididymal tail, both resected.
- Surgical pathology report indicates aggregate specimen of 4.1 x 2.0 x 0.4 cm, epididymis excision: No carcinoma present. Benign epididymis with adjacent prominent pampiniform plexus and soft tissue, clinically epididymal tail lesion

Final Dx:

Benign extratesticular lesion mimicking adenomatoid tumor

# Case Discussion

**Definition:** Most extra testicular masses are benign. The benign lesion in this case mimics an adenomatoid tumor on imaging. Adenomatoid tumors are benign, solid lesions that account for 30% of all paratesticular masses. Adenomatoid tumors are most commonly found in the epididymis. Recent studies suggest they come from mesothelial origin. The tumors consist of tubules of cuboidal and columnar cells with vacuolated cytoplasm and fibrous stroma.

**Epidemiology:** Generally, appear in white males between the 3rd and 5th decade of life. Mostly appear within or around the upper and lower pole of the epididymis (lower occurring more often than upper).

# Case Discussion

**Clinical Features:** Appear as a small, unilateral, painless scrotal mass. Size is normally less than 2 cm. Can go unnoticed and untreated for multiple years without complications.

## Radiographic Features:

Ultrasound: Well-defined, extratesticular mass with variable echogenicity. Ranges in size from 0.5-5cm, though usually less than 2cm.

MRI: T2: showing low signal intensity relative to the testicular parenchyma

T1 C+ (Gd): shows enhancement

# Case Discussion

**Differential Diagnosis:** lipoma, rhabdomyosarcoma, liposarcoma, supernumerary testes, epididymitis, scrotal tuberculosis

**Diagnosis:** Excisional biopsy and pathological review.

**Treatment:** Managed by excisional biopsy with testis-sparing surgery

# References:

1. Delahunt B, Eble JN, King D, Bethwaite PB, Nacey JN, Thornton A. Immunohistochemical evidence for mesothelial origin of paratesticular adenomatoid tumour. *Histopathology*. 2000;36(2):109–15.
2. Eble JN SG, Epstein JI, Sesterhenn IA. World Health Organization Classification of Tumors. Pathology and Genetics of Tumour of the Urinary System: IACR Press; Lyon 2004.
3. Woodward P, Schwab C, Sesterhenn I. From the Archives of the AFIP - Extratesticular Scrotal Masses: Radiologic-Pathologic Correlation. *Radiographics*. January 2003; 23(1): 215-240.
4. Rumack C, Wilson S, Charboneau J. Ed Johnson, Jo-Ann. *Diagnostic Ultrasound, Volume 1: Third Edition*, pp 872-874. 2005, Mosby Inc.