

# AMSER Case of the Month

## September 2023

68 year-old man presents with nontender right testicular enlargement

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# Patient Presentation

**HPI:** 68 y.o. man with significant cardiac history, including stenotic bicuspid aortic valve, three vessel coronary artery disease and pulmonary embolism, presented with 6 months of nontender right testicular enlargement. He reported intermittent nausea and shortness of breath at baseline. He had no significant weight loss, swelling, or lymph node enlargement.

- Unfortunately, this was reported to his primary care physician via phone message; a thorough physical exam and history could not be taken at that time
- He was referred to Urology in a timely fashion and imaging was ordered based on physical exam

**Physical Exam:** His right testicle was significantly enlarged and firm. His left testicle was normal in size but also firm throughout.

**Pertinent Labs:** CBC revealed mild anemia (Hct 39%). Normal WBC and Complete Metabolic Panel.

What Imaging Should We Order?

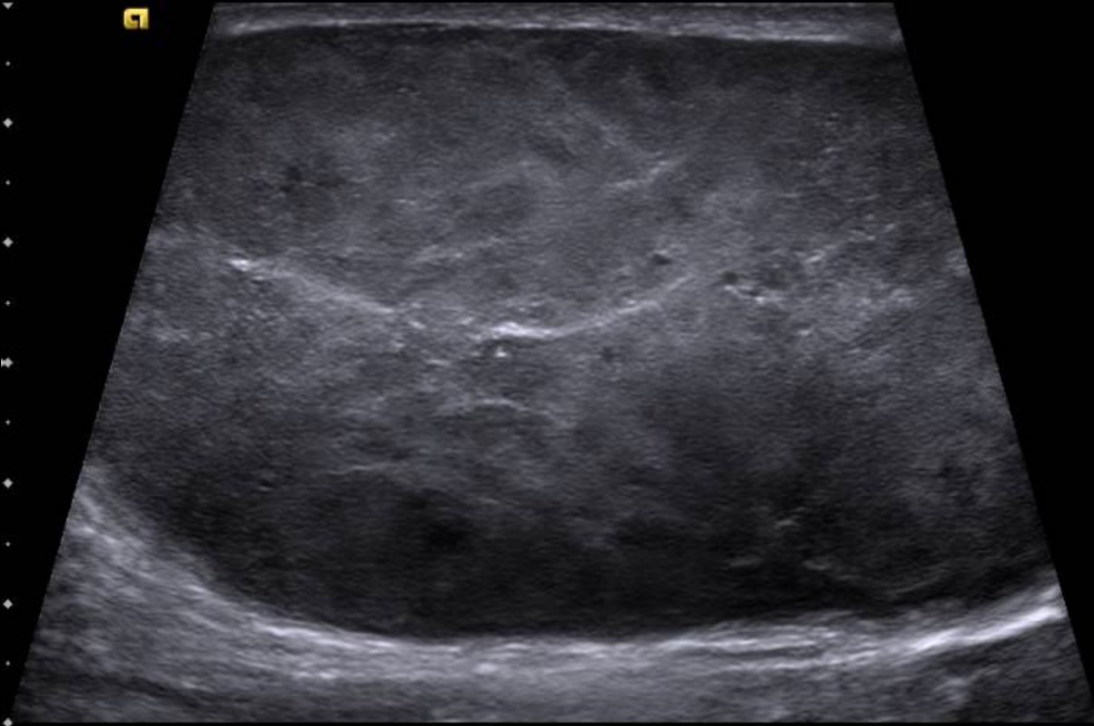
# Select the applicable ACR Appropriateness Criteria

**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                        |

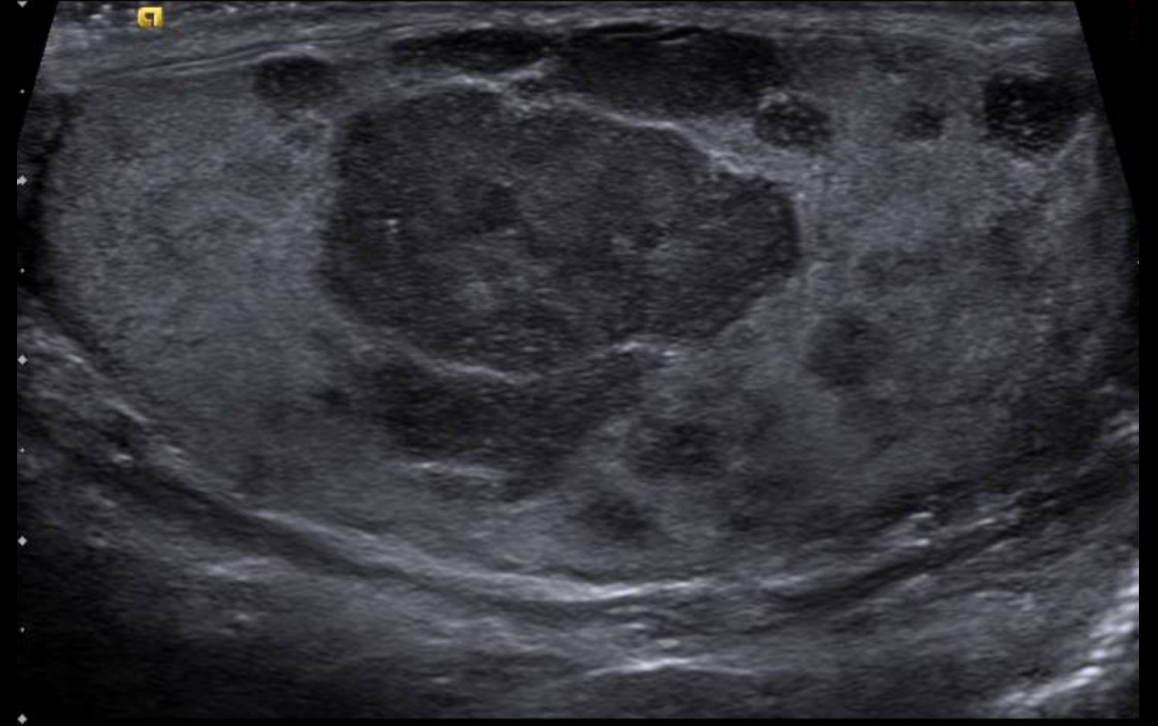
This imaging study was requested by the Urologist

# Findings (unlabeled)



SAG RT TESTIS MID \_

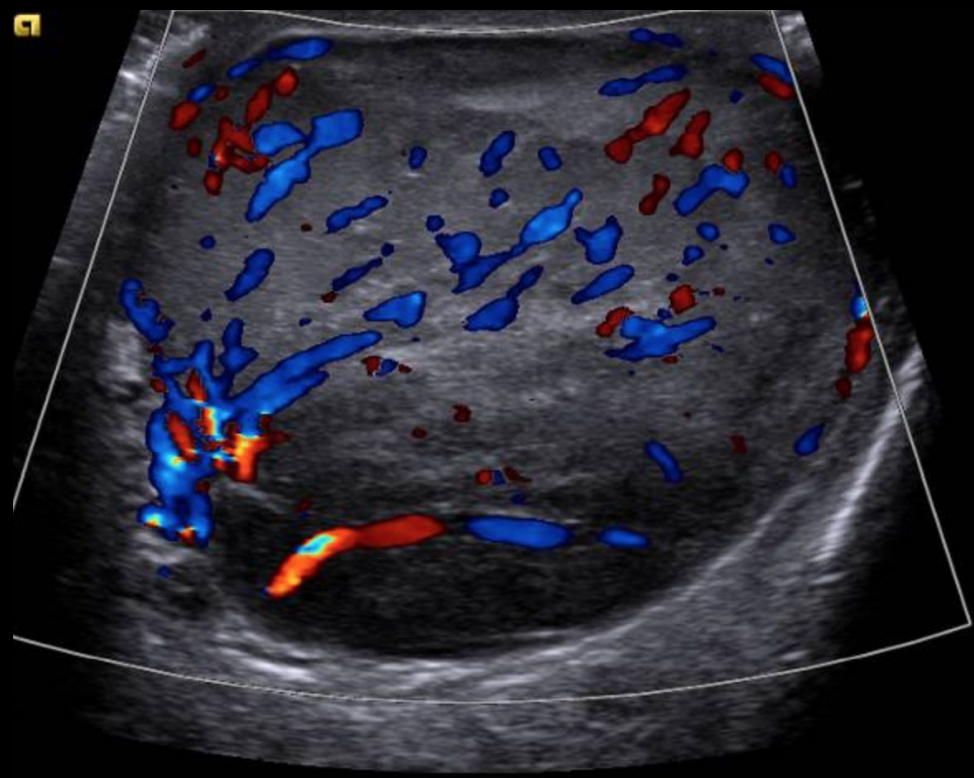
6cm



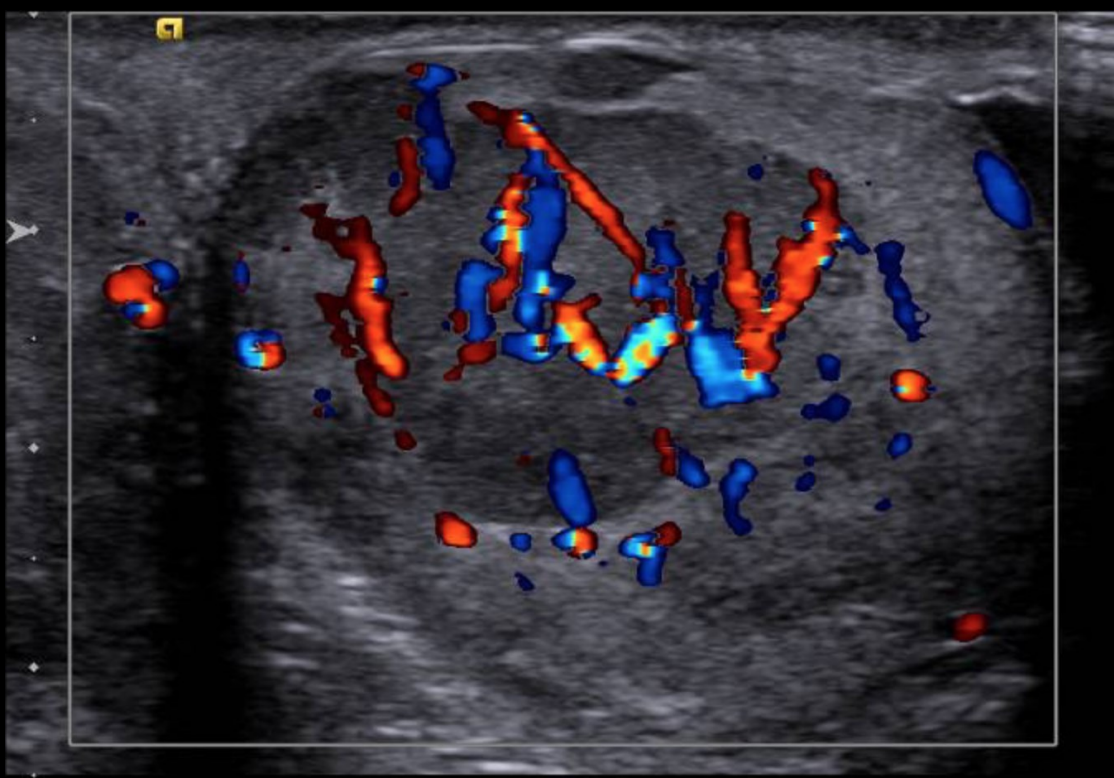
SAG LT TESTIS MID \_

4cm

# Findings (unlabeled)



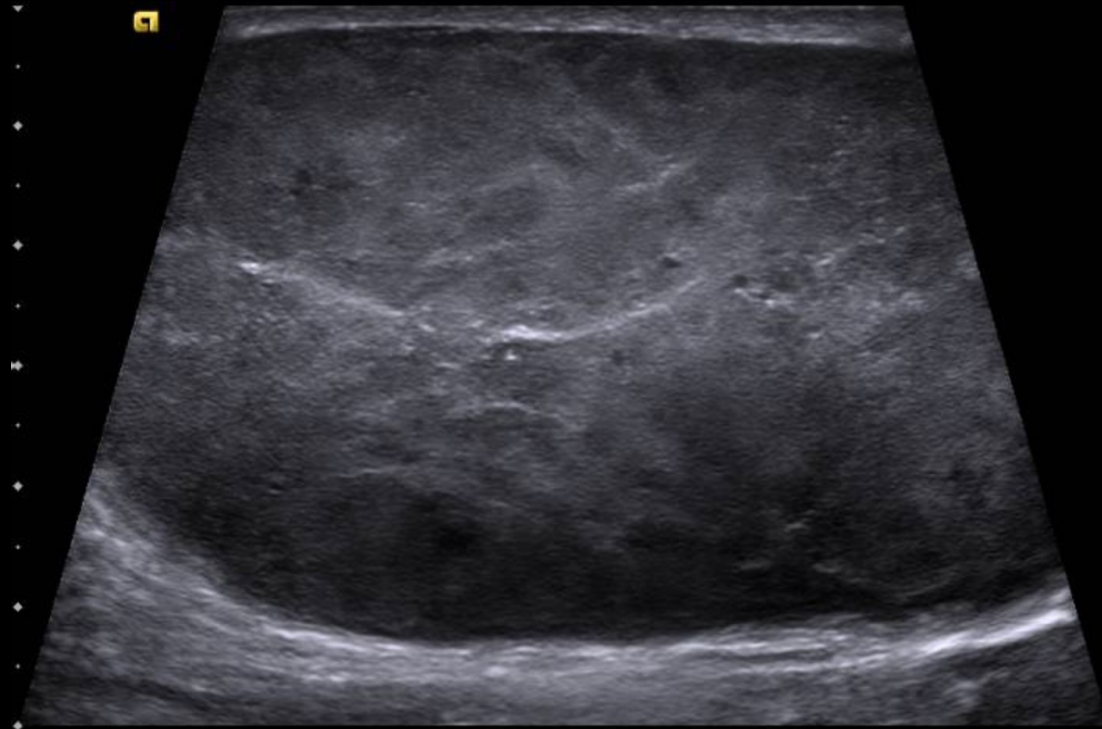
TRANS RT TESTIS MID\_ 6.5cm



TRANS LT TESTIS MID\_ 3.5cm



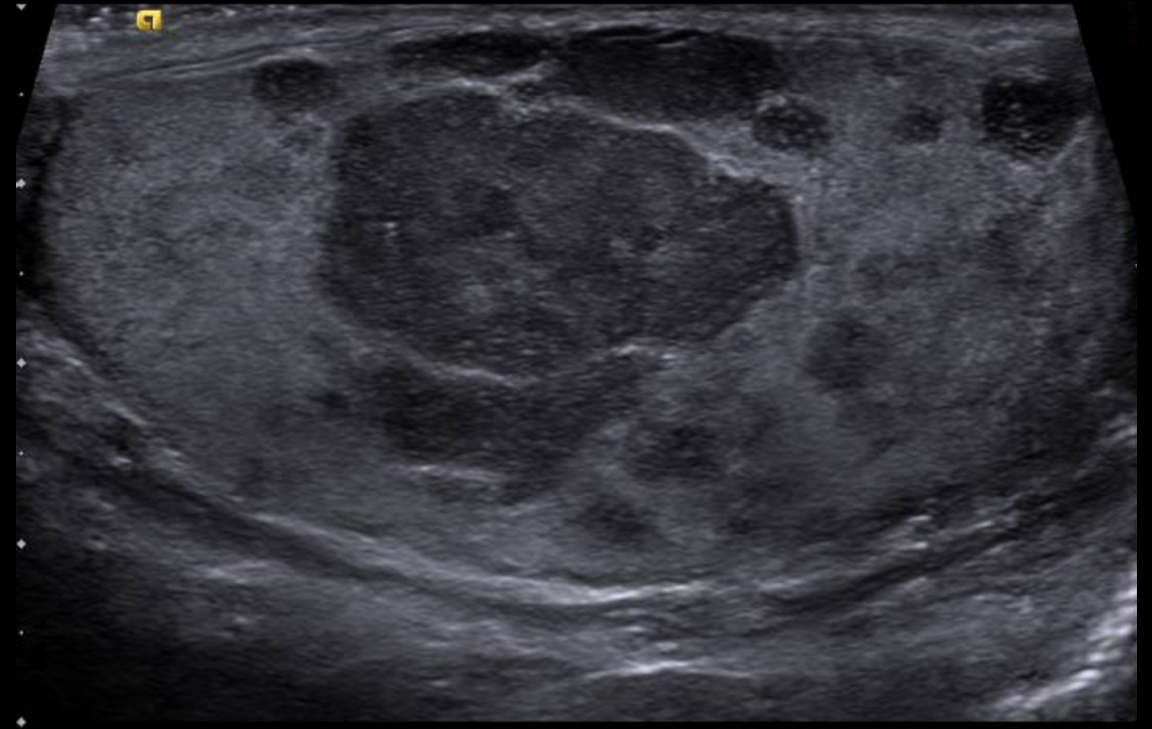
# Findings (labeled)



Diffuse enlargement (10.5 x 6.5 x 5.4 cm)  
with heterogeneous hypoechoic signal

SAG RT TESTIS MID\_

6cm

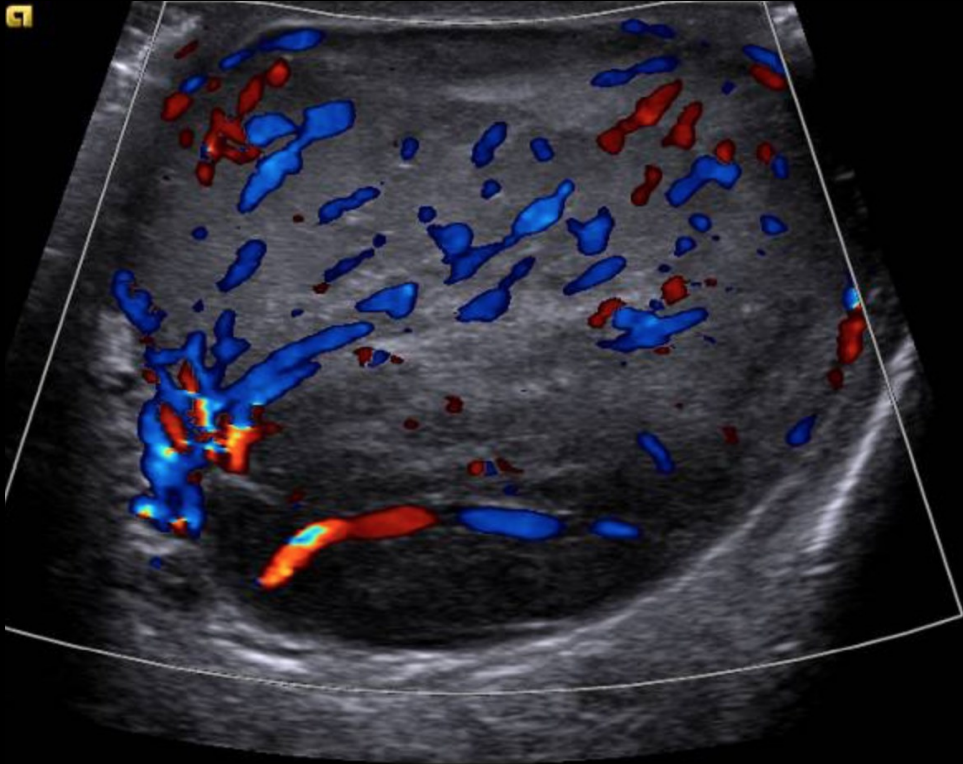


Multiple discrete hypoechoic masses  
measuring up to 2.5 cm

SAG LT TESTIS MID\_

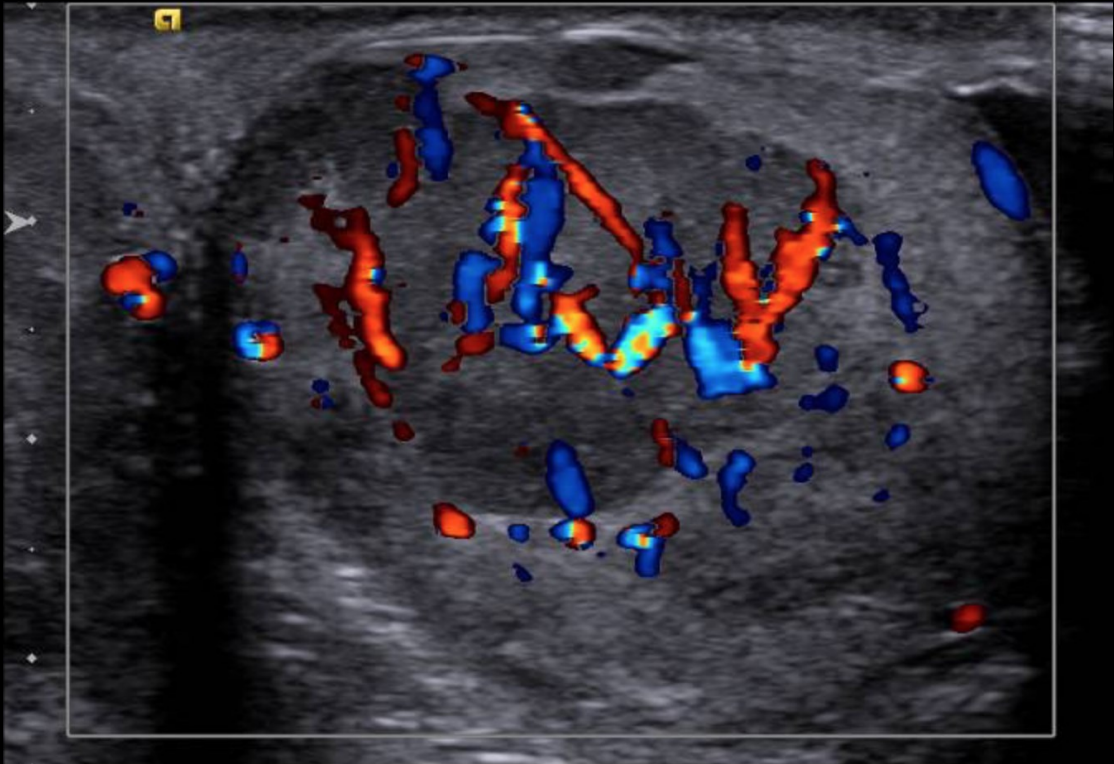
4cm

# Findings (labeled)



Diffusely increased vascularity

TRANS RT TESTIS MID\_ 6.5cm



Diffusely increased vascularity, including color Doppler flow within the hypoechoic lesions.

TRANS LT TESTIS MID\_ 3.5cm



Final Dx:

Bilateral Primary Testicular Lymphoma

# Bilateral Scrotal Lesions

## Neoplastic

- Lymphoblastic Leukemia
- Non-Hodgkin's Lymphoma
  - Primary is rare
  - Often occurs with recurrence
- Other Metastatic Disease
  - Prostate
  - Lung
  - Colorectal
  - Renal Cell Carcinoma
  - Malignant Melanoma

## Non-neoplastic

- Testicular sarcoidosis
  - Paratesticular
  - More often epididymal involvement
- Testicular Adrenal Rests
  - Cushing's Syndrome
  - Congenital Adrenal Hyperplasia

# Testicular Lymphoma

~10% of all testicular malignancies:

- ~2% of all non-Hodgkin's Lymphoma
- 40% present bilaterally
- 80% Diffuse Large B-Cell Lymphoma

Frequently metastasizes to:

- Waldeyer's ring
- Skin/submucosa
- Central nervous system
- Contralateral testis
- Lung

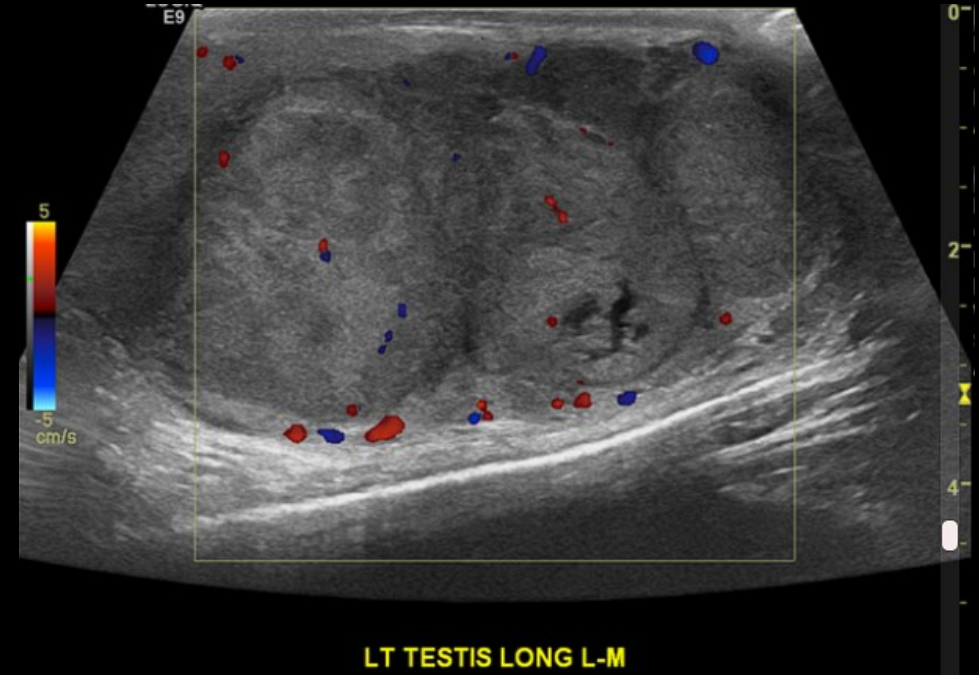
Ultrasound findings are nonspecific:

- Diffuse enlargement with ill-defined hypoechoic signal
- Discrete hypoechoic masses
- May involve epididymis
- Highly hypervascularized
- May have multiple discrete lesions

# Look-Alikes



Morgan M, Fahrehorst-Jones T, Bell D, et al. Leukemia (testicular manifestations). Reference article, Radiopaedia.org



Dixon A, Ashraf A, El-Feky M, et al. Testicular seminoma. Reference article, Radiopaedia.org

## Testicular Leukemia

- 2-3 years following primary disease
- Requires clinical history for differentiation
- More often focal involvement

## Testicular Germ Cell Tumors

- 50% Testicular Seminomas
- Cryptorchidism as a major risk factor (10-40x)
- Not associated with elevated Alpha-Fetoprotein (AFP)

# References:

- Dixon A, Ashraf A, El-Feky M, et al. Testicular seminoma. Reference article, Radiopaedia.org (Accessed on 21 May 2023) <https://doi.org/10.53347/rID-9885>
- Freedman A, Friedberg J. Initial Treatment of Advance Stage Diffuse Large B Cell Lymphoma. In: UpToDate, Post, AR (Ed), UpToDate, Waltham, MA, 2023.
- Jones J, Ayesa S, Ashraf A, et al. Testicular cancer. Reference article, Radiopaedia.org (Accessed on 25 May 2023) <https://doi.org/10.53347/rID-9059>
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- Smith H, Bell D, Knipe H, Testicular sarcoidosis. Reference article, Radiopaedia.org (Accessed on 06 Jun 2023) <https://doi.org/10.53347/rID-63064>
- Radswiki T, Yap J, Ashraf A, et al. Testicular adrenal rests. Reference article, Radiopaedia.org (Accessed on 06 Jun 2023) <https://doi.org/10.53347/rID-11127>