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

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
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</thead>
<tbody>
<tr>
<td>US duplex Doppler scrotum</td>
<td>Usually Appropriate</td>
<td>O</td>
</tr>
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<td>US scrotum</td>
<td>Usually Appropriate</td>
<td>O</td>
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<td>MRI pelvis (scrotum) without and with IV contrast</td>
<td>May Be Appropriate</td>
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This imaging study was requested by the Urologist.

Variant 2: Newly diagnosed palpable scrotal abnormality. No history of trauma or infection. Initial imaging.
Findings (unlabeled)
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Findings (labeled)

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

Multiple discrete hypoechoic masses measuring up to 2.5 cm
Findings (labeled)

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

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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

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:


Freedman A, Friedberg J. Initial Treatment of Advance Stage Diffuse Large B Cell Lymphoma. In: UpToDate, Post, AR (Ed), UpToDate, Waltham, MA, 2023.


