

# AMSER Case of the Month

## December 2022

50-year-old male with painless hematuria

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# Patient Presentation

- **HPI:** Patient presented to his PCP after noticing blood in his urine (for an unknown duration). He was otherwise asymptomatic.
- **PMHx:** Asthma
- **PSHx:** Left meniscal repair, right clavicle surgery
- **SHx:** Reported never smoking, drinking alcohol “at times,” and no other substance use.
- **ROS:** Negative
- **Vitals:** WNL

What Imaging Should We Order?

# Select the applicable ACR Appropriateness Criteria

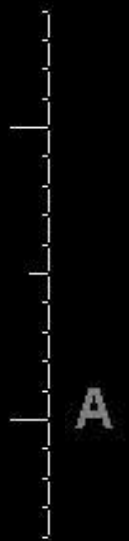
**Variant 4: Gross hematuria. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
CTU without and with IV contrast	Usually Appropriate	⊕⊕⊕⊕
MRU without and with IV contrast	Usually Appropriate	○
CT abdomen and pelvis without and with IV contrast	May Be Appropriate	⊕⊕⊕⊕
MRI abdomen and pelvis without and with IV contrast	May Be Appropriate	○
MRI abdomen and pelvis without IV contrast	May Be Appropriate	○
US kidneys and bladder retroperitoneal	May Be Appropriate	○
CT abdomen and pelvis with IV contrast	May Be Appropriate	⊕⊕⊕
CT abdomen and pelvis without IV contrast	May Be Appropriate	⊕⊕⊕
Radiography abdomen and pelvis (KUB)	Usually Not Appropriate	⊕⊕
Arteriography kidney	Usually Not Appropriate	⊕⊕⊕
Radiography intravenous urography	Usually Not Appropriate	⊕⊕⊕

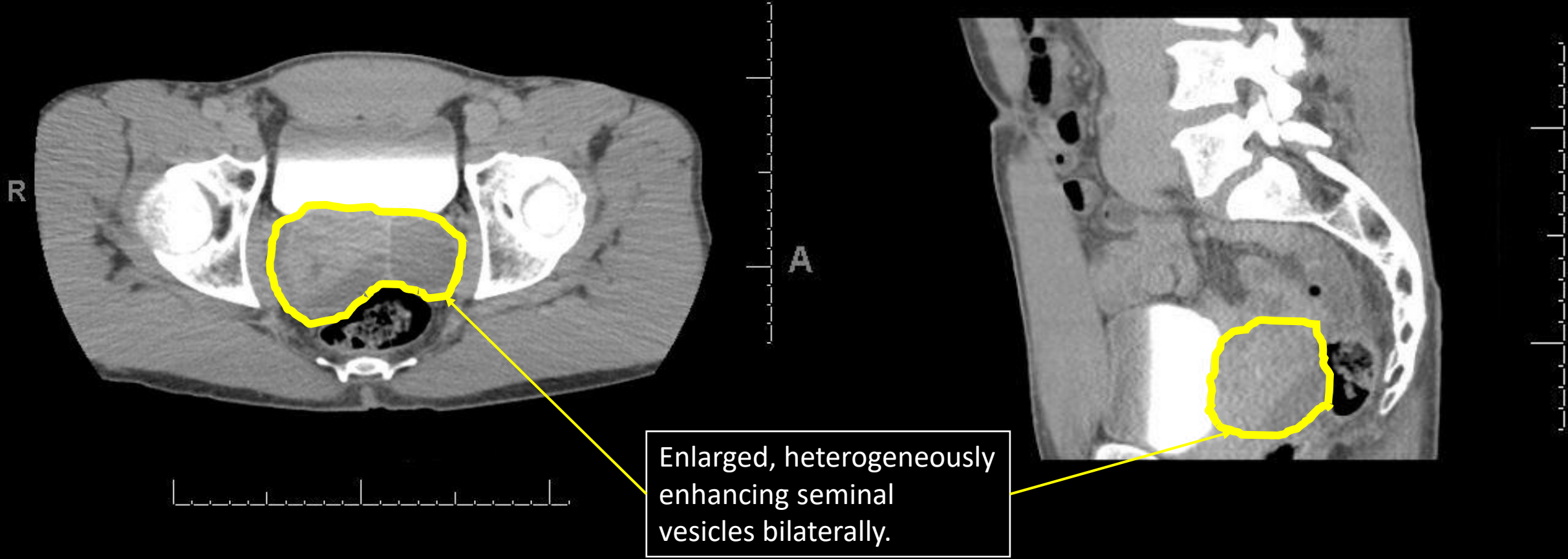
This imaging modality was ordered by the PCP



# Findings (unlabeled)



# Findings (labeled)

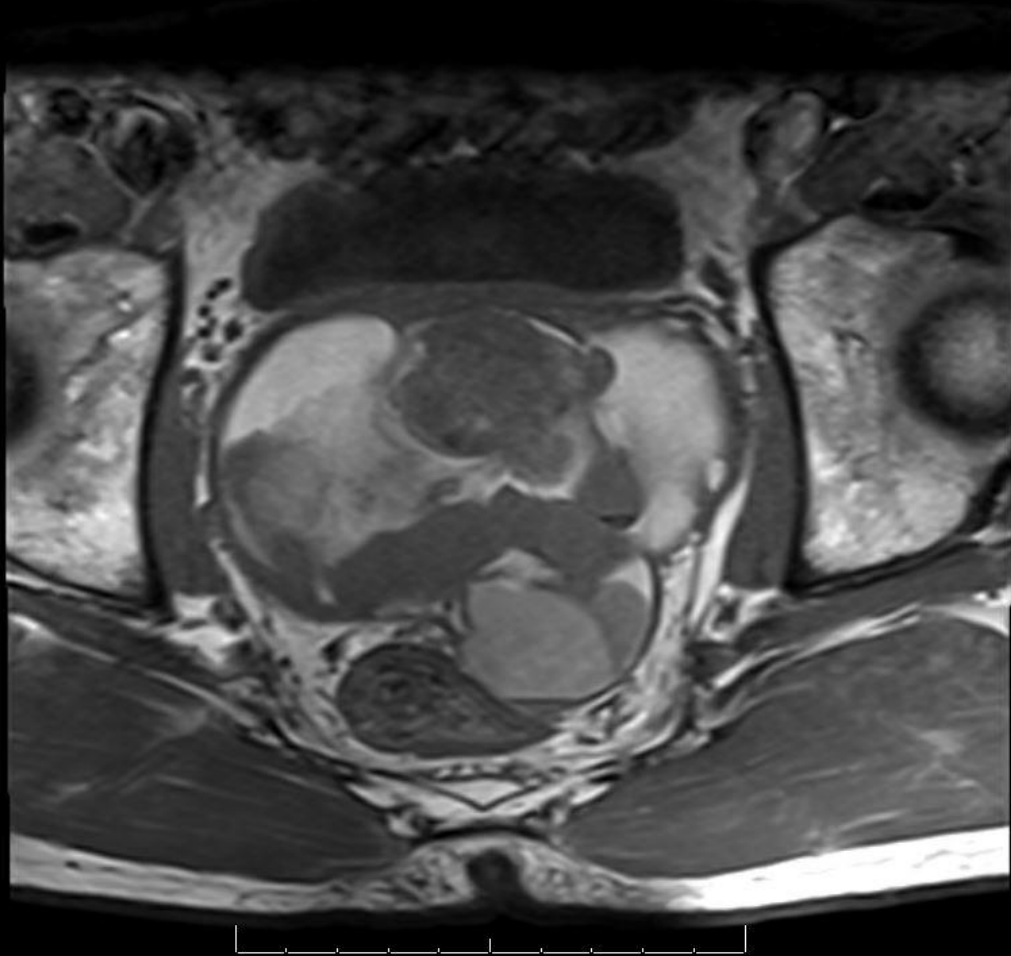


# Case Progression

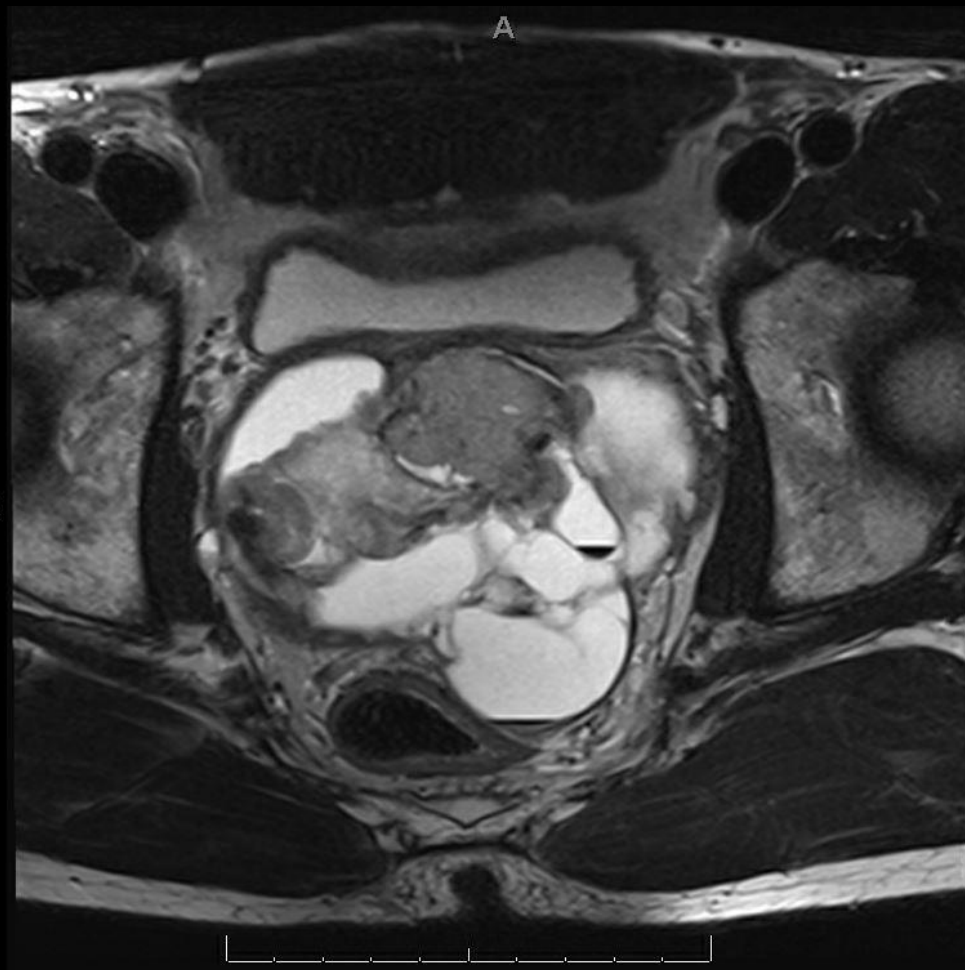
- Cystoscopy and urine cytology were found to be normal, and the patient's symptoms spontaneously resolved.
- After recurrence of hematuria and developing a new sensation of perianal fullness and pelvic pressure, the patient was treated with a course of antibiotics for presumed vesiculitis/prostatitis. His symptoms again resolved.
- Approximately 10 months after initially presenting, the patient's symptoms recurred with increased intensity.
  - MRI without and with IV contrast was ordered to further evaluate.

# Findings (unlabeled)

A



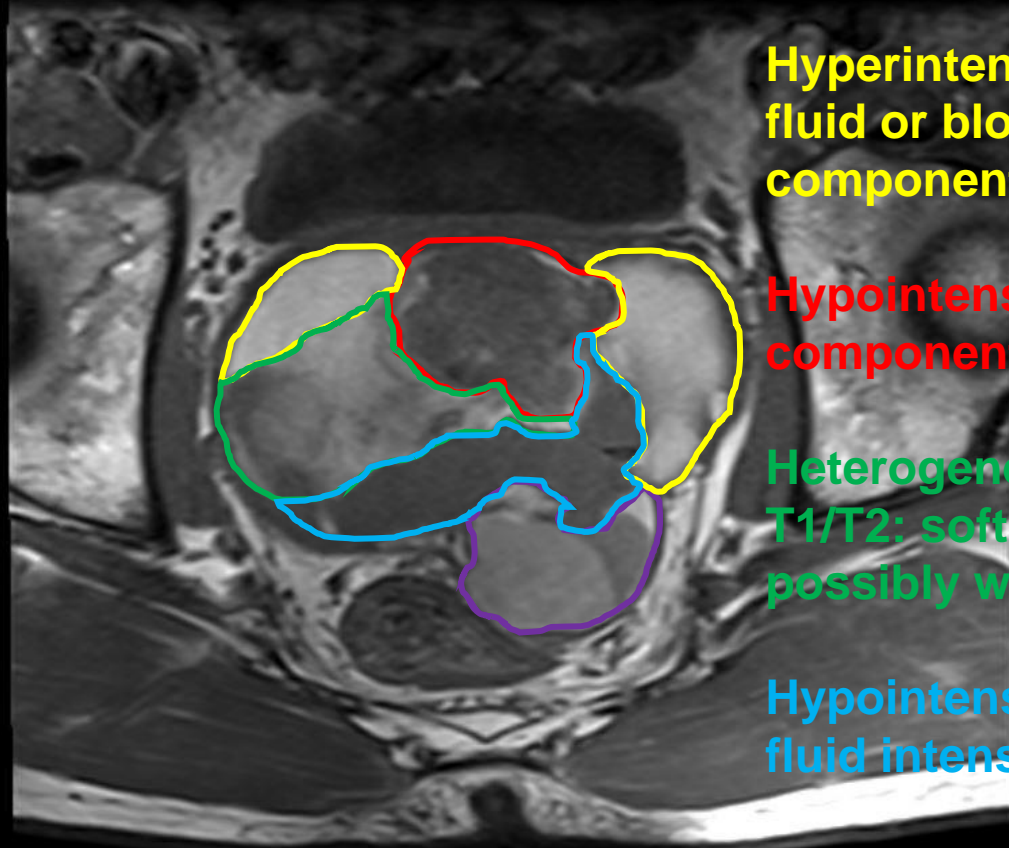
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# Findings (labeled)

Overall: Large heterogeneous mass, likely related to the seminal vesicles, composed of both cystic and solid components.



T1-weighted axial MR

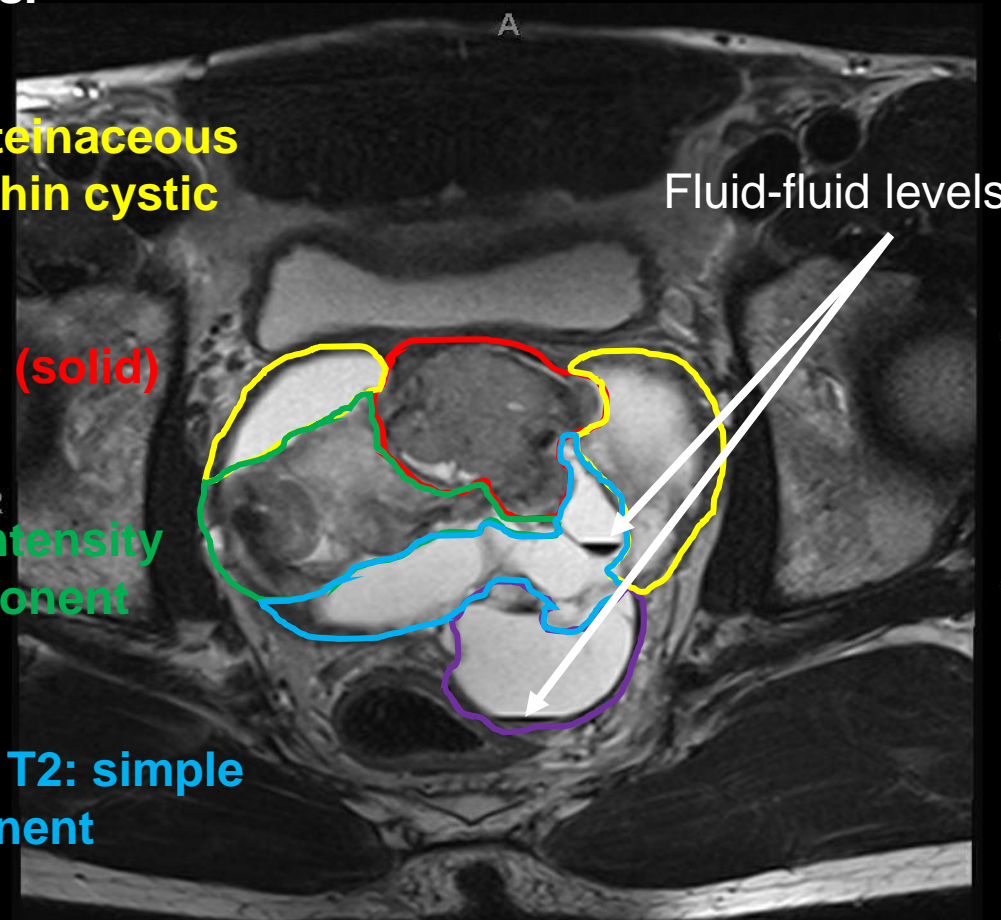
**Hyperintense T1/T2: likely proteinaceous fluid or blood, possibly fat, within cystic component**

**Hypointense T1/T2: soft tissue (solid) component**

**Heterogeneous intermediate intensity T1/T2: soft tissue (solid) component possibly with edema, necrosis**

**Hypointense T1, Hyperintense T2: simple fluid intensity in cystic component**

**Septations and T1 signal delineating locules of complex fluid (hemorrhagic, proteinaceous, fat) in cystic component**



T2-weighted axial MR

Fluid-fluid levels

Final Dx:

Sarcoma of the Seminal Vesicles

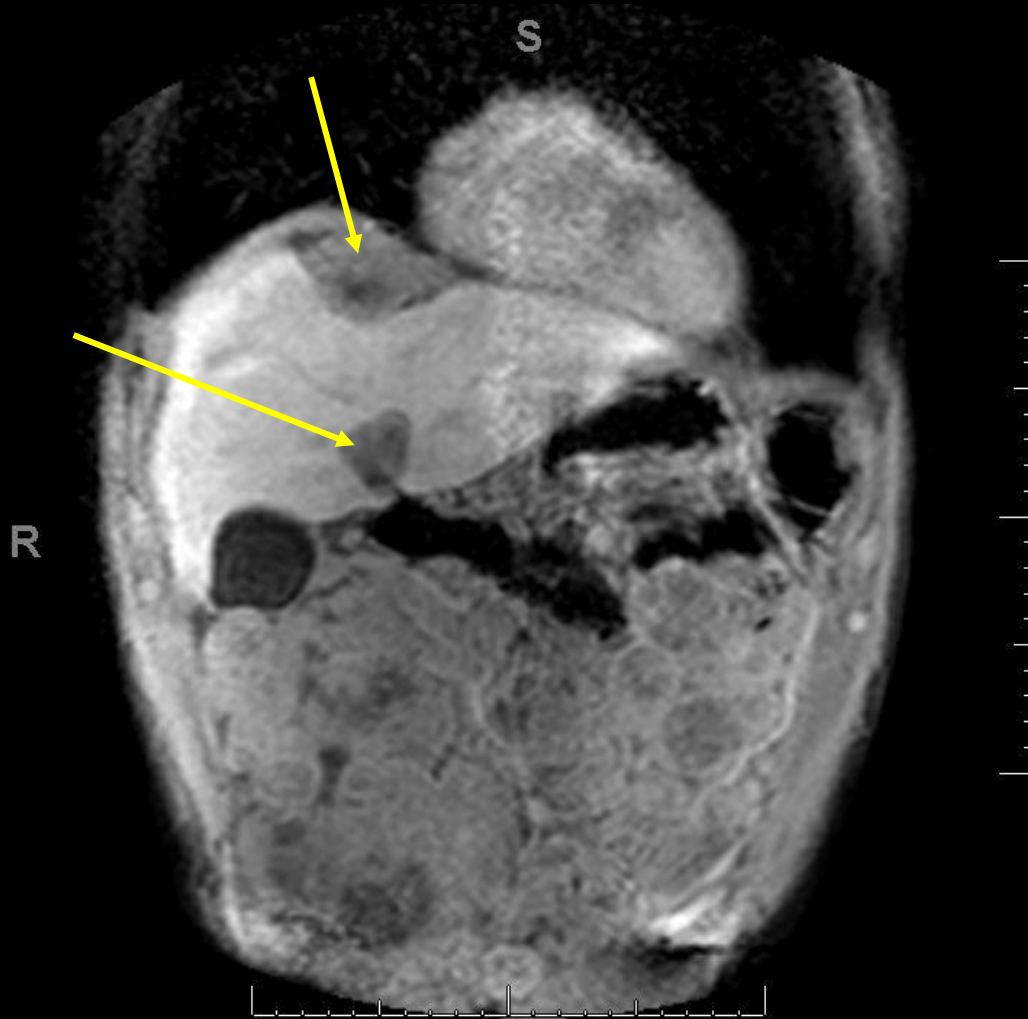
# Case Discussion

- Seminal Vesiculitis may be seen in up to 24% of patients with other GU infections.<sup>1</sup>
- Given the initial imaging and the resolution of the patient's symptoms after a course of antibiotics, infection as the underlying etiology was forefront on the differential.
- After recurrence of the patient's symptoms, chronic vesiculitis or abscess was a strong possibility secondary to the highly convoluted structure of the seminal vesicles and their low vascularity (leading to low drug/antibiotic concentration).<sup>2</sup>

# Case Discussion

- Although primary neoplasms of the SVs are rare, secondary involvement of the SVs, particularly from prostatic adenocarcinoma, is common.<sup>3</sup>
- Previous cases of sarcoma of the SVs have been noted to grow locally and compress adjacent pelvic organs, such as the prostate, bladder, and rectum.<sup>4</sup> This is clearly demonstrated in this patient's initial and secondary imaging, as well as in his history and chief complaints.
- This patient ultimately received resection of the SVs with adjuvant radiation to the operative bed. After recurrence/metastasis was noted, the patient began chemotherapy. He ultimately passed away ~1.5 years after initial presentation.

# Case Discussion



On the left is a coronal T1 from an imaging study taken shortly before this patient's death. Hypointense lesions are seen throughout the abdomen, representing extensive peritoneal metastasis with involvement of the hepatic capsule (**arrows**). Both extrinsic mass effect on the liver and displacement/invasion of bowel loops are present.

# References:

1. Reddy MN, Verma S. Lesions of the Seminal Vesicles and their MRI Characteristics. *J Clin Imaging Sci*. 2014 Oct 31;4:61. doi: 10.4103/2156-7514.143734. PMID: 25396077; PMCID: PMC4229784.
2. Xu, B., Li, P., Niu, X., Zhang, X., Wang, Z., Qin, C., Li, J., Jia, Y., Wu, H., & Zhang, W. (2011). A new method of chronic and recurrent seminal vesiculitis treatment. *Journal of endourology*, 25(11), 1815–1818. <https://doi.org/10.1089/end.2010.0456>
3. Ramamurthy R, Periasamy S, Mettupalayam V. Primary malignancy of seminal vesicle: A rare entity. *Indian J Urol*. 2011 Jan;27(1):137-9. doi: 10.4103/0970-1591.78417. PMID: 21716878; PMCID: PMC3114576.
4. Cheng, Liang, MacLennan, Gregory T., and Bostwick, David G. *Urologic Surgical Pathology*. Fourth ed. 2020. ClinicalKey. Web.
5. American College of Radiology ACR Appropriateness Criteria Gross Hematuria <https://acsearch.acr.org/docs/69490/Narrative/>