AMSER Case of the Month
October 2023

65-year-old man with urinary urgency, dysuria, and rectal pain.

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Patient Presentation

- **HPI**: 65-year-old man with a history of CKD IV presenting to the ED with several weeks of urinary urgency, dysuria, constipation, and rectal pressure. Treated with amoxicillin by his PCP, which temporarily improved his symptoms. He also notes lower abdominal pain associated with an increased pressure sensation in his penis.

- **PMHx**: CKD IV, HTN, DM2, Gastric bypass (2005)

- **Vitals**: Temp: 36.9 C, Pulse: 78 bpm, Resp: 18/min, SpO2: 97%, BP: 128/60

- **Physical Exam**: No acute distress, abdomen is soft, non-distended, tender throughout the lower abdomen with associated pressure-sensation in penis, normoactive bowel sounds
**Pertinent Labs**

- **WBC:** $11.6 \times 10^3/\mu L$  
- **HGB:** 10.2 g/dL  
- **PLT:** $176 \times 10^3/\mu L$  
- **Creatinine:** 2.46 mg/dL (H - baseline 3.3-3.6)  
- **Lactate:** 1.5 units/L  
- **PSA:** 2.1 ng/mL  

**Urinalysis**

- **Yellow, turbid**  
- **Blood:** Negative  
- **Protein:** 20 mg/dL  
- **Glucose:** Normal  
- **Nitrite:** 1+ (H)  
- **Leukocyte esterase:** 500 Leu/µL (H)  
- **Urine Culture**  
  - **100,000 CFU/mL E. Coli**
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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<tbody>
<tr>
<td>CT abdomen and pelvis with IV contrast</td>
<td>Usually Appropriate</td>
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<tr>
<td>US abdomen</td>
<td>May Be Appropriate</td>
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<td>US color Doppler kidneys and bladder retroperitoneal</td>
<td>May Be Appropriate</td>
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<td>MRI abdomen and pelvis without and with IV contrast</td>
<td>May Be Appropriate</td>
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<td>MRI abdomen and pelvis without IV contrast</td>
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<td>CT abdomen with IV contrast</td>
<td>May Be Appropriate (Disagreement)</td>
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<td>Fluoroscopy voiding cystourethrography</td>
<td>Usually Not Appropriate</td>
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<td>Radiography abdomen and pelvis (KUB)</td>
<td>Usually Not Appropriate</td>
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<td>Fluoroscopy antegrade pyelography</td>
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<td>Radiography intravenous urography</td>
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<td>MRU without and with IV contrast</td>
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<td>DMSA renal scan</td>
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This imaging modality was ordered by the ER physician given patient’s history of advanced CKD (with PO contrast also given)
Findings (CT abdomen and pelvis without IV contrast)
Fungating 8.3 cm lobulated mass inseparable from prostate and rectum with focus of gas. Overall concerning for rectal or prostatic carcinoma, though adjacent gas foci are non-specific and raise suspicion for infection or fistula.
Patient underwent flexible sigmoidoscopy, which showed partial obstruction of the rectum by an extrinsic mass.

Findings (CT abdomen and pelvis without IV contrast)

Fungating 8.3 cm lobulated mass inseparable from prostate and rectum with focus of gas. Overall concerning for rectal or prostatic carcinoma, though adjacent gas foci are non-specific and raise suspicion for infection or fistula.

MRI Pelvis with and without contrast (prostate protocol)
Findings (MRI Pelvis, Prostate Protocol)

Axial and Sagittal T1, fat saturated, post contrast

Axial T2

Axial DWI (b1600)

Axial ADC Map
Findings (MRI Pelvis, Prostate Protocol)

Axial and Sagittal T1, fat saturated, post contrast

Multiloculated, predominantly cystic pelvic lesion arising from the prostate

Mass effect on the rectum

No normal residual prostate tissue identified

Axial T2

Axial DWI (b1600)

Restricted diffusion of some of the thickened septations

Axial ADC Map
Findings (MRI Pelvis, Prostate Protocol)

Multiloculated, predominantly cystic pelvic lesion arising from the prostate.

Differential includes atypical prostatic neoplasm or abscess.

Recommend ultrasound-guided biopsy of the prostate.

No normal residual prostate tissue identified.

Axial and Sagittal T1, fat saturated, post contrast

Mass effect on the rectum

Axial T2

Axial DWI (b1600)

Axial ADC Map
Final Dx:

Xanthogranulomatous Prostatitis
Case Discussion: Xanthogranulomatous Prostatitis

- Granulomatous prostatitis is a rare, inflammatory, nodular form of chronic prostatitis.
- It is a benign lesion, though often mimics prostatic carcinoma or abscess on MRI.
- Diagnosed via tissue sampling
- Xanthogranulomatous prostatitis is a subtype involving foamy histiocytes and mixed acute and lymphoplasmacytic inflammatory infiltrate
Case Discussion: Xanthogranulomatous Prostatitis

• **Causes:**
  - Infection
  - Bacillus Calmette-Guerin (BCG) vaccine
  - Autoimmune disease
  - Sarcoidosis
  - Idiopathic

• **Treatment:** Antibiotics + removal of infected tissue (e.g., TURP, open prostatectomy)

Patient underwent culture-directed antibiotic therapy for 30 days then underwent TURP that showed benign pathology.
References:


