AMSER Case of the Month
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47 y/o F with sepsis

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Patient Presentation

• History: 4 days of worsening LLQ pain and nausea s/p antibiotic treatment for recurrent intraabdominal infection.
• PMH: Gardner Syndrome, intraabdominal abscess, desmoid tumor, SBO, SVT
• PSH: Pan-colectomy, tumor debulking
• Meds: Morphine, levothyroxine, lorazepam
• Physical Exam: LLQ and epigastric tenderness
Pertinent Labs

- WBC 3.6 (4.0 – 11.0)
- Tbili 1.3
- Na 138, K 3.8, CO2 23
- UA with trace blood
What Imaging Should We Order?
Select the applicable ACR Appropriateness Criteria

This imaging modality was ordered by the ER physician

<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 transabdominal</td>
<td>May Be Appropriate</td>
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<td>US pelvis transvaginal</td>
<td>May Be Appropriate</td>
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<td>Radiography abdomen and pelvis</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>Fluoroscopy contrast enema</td>
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CT Findings (unlabeled)
Findings: (labeled)

7.6 x 2.0 cm rim-enhancing fluid and gas collection within the right abdomen, consistent with abscess

Additional 1.3 x 1.2 cm abscess within the central mesenteric roots

Third abscess, measuring 5.4 x 3.1 cm within the pelvis

Red arrows indicate portions of amorphous desmoid infiltrating the mesentery and remaining portions of the bowel
Final Dx:

Multiple Intraabdominal Abscesses
Case Discussion

• Gardner syndrome is one of the familial adenomatous polyposis syndromes
  • Characteristic tumors include: osteomas, desmoid tumors (as in this patient), duodenal tumors / ampullary carcinoma, papillary thyroid carcinoma, and adrenal adenomas
  • Patients undergo extensive abdominal surgical intervention, creating complex variant anatomy prone to complications

• This case highlights the importance of identifying abscesses which can be challenging in these patients, particularly those with complex postsurgical anatomy
Case Discussion – Differential and Management

- Differential diagnosis for an abdominopelvic fluid collection is broad and includes: abscess, hematoma, seroma, and organ perforation-related fluid (such as urinoma, biloma, bowel leak).

- CT findings that can increase specificity for abscess / infection include rim-enhancement and gas.

- Biopsy can be useful in determining etiology but there was no safe window for biopsy in our patient.

- Our patient’s fluid collections were felt to be abscesses in the setting of her current signs / symptoms of sepsis and her prior history of recurrent intraabdominal abscesses.

- Infectious Disease was consulted, and the patient received an extended course of broad-spectrum antibiotics with clinical improvement.
Teaching Points – Abscess Identification

• Abscesses are purulent collections consisting of:
  • Central core of necrotic inflammatory cells and tissue
  • Halo of neutrophils
  • Fibrotic capsule with dilated blood vessels

• CT features can include:
  • Low attenuation central necrotic component
  • Fibrous capsule with contrast enhancement
  • Local inflammatory reaction such as fat stranding
  • Mass effect
  • Surrounding gas
Teaching Points – Desmoid Tumors

- Desmoid tumors are benign fibrotic tumors that can be locally invasive (as in our patient) and have a high tendency for recurrence
- They are rare, representing approximately 0.03% of all neoplasms and are more common in women (2:1)
- Can be associated with pregnancy and estrogen therapy, Gardner syndrome, and FAP
- CT features include:
  - Generally well-circumscribed, but can be infiltrative
  - Either homogenously or focally hyperattenuating compared to soft tissue on non-contrast scans
  - Enhancement with IV contrast
References:


