Low-grade Appendiceal Mucinous Neoplasms

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RADY 401 Case Presentation
August 2019
Focused patient history

• 54 y.o. female, began feeling right sided pain in March, thereafter began feeling more fatigued, experienced decreased appetite, n/v and constipation. Over the same time period, she noted weight gain and abdominal distension
Clinical Workup

• LABS
  • MARKERS: CA19-9, CEA, CA 125 – ALL NEGATIVE
  • METABOLIC PANEL – MILD HYPONATREMIA – ALL OTHERS WNL
  • LIVER MARKERS: AST /ALT / ALP, PT/PTT/INR – ALL WNL

• IMAGING
  • CT- ABD / PELVIS w/ IV + ORAL CONTRAST
  • Did they order the correct initial study?
## ACR Appropriateness Criteria

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Adult RRL</th>
<th>Peds RRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>US abdomen</td>
<td>Usually appropriate</td>
<td>0 0 mSv</td>
<td>0 0 mSv [ped]</td>
</tr>
<tr>
<td>MRI abdomen without and with IV contrast</td>
<td>May be appropriate</td>
<td>0 0 mSv</td>
<td>0 0 mSv [ped]</td>
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<td>MRI abdomen without IV contrast</td>
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</table>
Initial CT Scan: Coronal Images +IV and Oral Contrast

Large complicated cystic neoplasm filling the abdominal and pelvis cavity measuring 30.0 x 32.4 x 20.1 cm
Initial CT Scan: Sagittal and Coronal Images +IV and Oral C

Large complicated cystic neoplasm filling the abdominal and pelvis cavity measuring 30.0 x 32.4 x 20.1 cm
Initial CT Scan: Axial Image +IV and Oral Contrast

Large complicated cystic neoplasm filling the abdominal and pelvis cavity measuring 30.0 x 32.4 x 20.1 cm
Initial CT Scan: Sagittal and Axial Images + IV and Oral C

Additional LEFT pelvic complicated cystic mass 10.4 x 6.6 x 7.6 cm.
Initial CT Scan: Coronal Image +IV and Oral Contrast

Additional LEFT pelvic complicated cystic mass 10.4 x 6.6 x 7.6 cm.

Initial CT ABD/PELVIS report proposed:
- BILATERAL cystic ovarian neoplasms (Mucinous > Serous )
Exploratory laparotomy and tissue biopsy

• SURGERY: Resection of masses and bilateral salpingo-oophorectomy
  • 40 lb post-op weight loss
  • normalized (return of) appetite
  • however, she continues to experience weakness and abdominal pain

• FINAL PATHOLOGY
  • low grade mucinous appendiceal (NOT ovarian) neoplasm

• ABD / PELVIS w/ IV + ORAL CONTRAST
  • Initial CT was reviewed: likely appendiceal mucocele, a descriptive term which refers to the appearance of a dilated mucin-filled appendix.
  • Postop CTs: see next slides. Chest CT negative
Follow-up CT Scan: Axial Image +IV and Oral Contrast

OMENTAL CAKING:
refers to infiltration of the omental fat by malignant soft-tissue density.
Follow-up CT Scan: Axial Images +IV and Oral Contrast

Pseudomyxoma peritonei:
Intraperitoneal accumulation of mucinous fluid related to a mucin-producing neoplasm

- Area 0.11 cm²
  Avg 22.88 HU
  Dev 10.60

- Area 0.11 cm²
  Avg 7.375 HU
  Dev 12.68
Follow-up CT Scan: Axial Images +IV and Oral Contrast

Small-volume fluid vs. possibly metastatic ill-defined nodular Soft-tissue
Follow-up CT Scan: Axial and Coronal Images +IV and Oral C

small-volume fluid vs. possibly metastatic ill-defined nodular Soft-tissue

4.04 cm

1.93 cm
The spectrum of symptoms varies from vague abdominal pain, nausea, vomiting, and weight loss, to a palpable mass, abdominal distension, and acute appendicitis.

Villous adenomatous neoplastic changes of the appendiceal epithelium

Highly associated with Pseudomyxoma peritonei
  - simple or loculated low attenuation mucinous fluid throughout peritoneum, omentum, and mesentery
  - exaggerated especially when metastasis to the ovaries (pseudomyxoma ovarii)

Omental caking
  - refers to infiltration of the omental fat by malignant soft-tissue density

Appendiceal mucocele
  - descriptive term which refers to the appearance of a dilated mucin-filled appendix
  - more septated = increased risk of being a malignancy

Take Home Points: Appendiceal Mucinous Neoplasms
References

https://radiopaedia.org/articles/omental-cake?lang=us
https://radiopaedia.org/articles/pseudomyxoma-peritonei?lang=us

