Appendicular Adenocarcinoma: The Great Pretender
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Introduction

- Appendicular adenocarcinoma (AA) is a rare primary malignant neoplasm that arises from the cells lining the appendix.
- Appendicular neoplasms can be divided into carcinoid, mucinous, goblet cell, and adenocarcinoma based on cytologic examination.1
- Incidence is 0.12 per 100,000 people per year.2
- AA accounts for 0.5% of all gastrointestinal neoplasms per year.3
- Most common presentation of appendicular neoplasms includes signs and symptoms of acute appendicitis including RLQ pain, nausea, anorexia, and vomiting.4-6
- Definitive diagnosis is established through biopsy and pathology report.7
- Past medical history, computed tomography, and ultrasound are tools to help establish appendicular adenocarcinoma as part of the differential diagnosis.8
- Treatment options depend on the histologic characteristics of the neoplasm and include appendectomy, hemicolectomy, cytoreductive surgery, peritoneectomy, chemotherapy, and hyperthermic intraperitoneal chemotherapy.1,7,9

Case Description

- 53-year-old female presented to the emergency department with a 3-week history of dull abdominal pain radiating to her RLQ, fatigue, sore throat, nausea, and vomiting. Denied changes in bowel movements, weight loss, blood in stool, or gynecologic symptoms.7
- V. lutea (101 F), hypertensive (162/93 mmHg), all other vitals within normal limits.
- Physical exam only notable for diffuse abdominal tenderness to palpation with tenderness over McBurney’s point.

Medical History

- Past Medical History: chronic polyps, abdominal diverticulitis.
- Past Surgical History: excision of tubular adenoma from the esophagus and sigmoid, removal of hyperplastic polyps in the sigmoid colon.
- Social History: former tobacco user (10-40 pack yrs), marijuana use.
- Family History: prostate cancer, melanoma.

Diagnostic Testing

- CMP and CBC within normal limits.

Imaging

- Abdominal CT scan revealed acute appendicitis with a 21 mm thickened appendix.
- RUQ ultrasound within normal limits.

Histology

- Tissue: Appendix
- Histologic Type: Adenocarcinoma
- Margins: All margins negative
- Tumor Staging: pT1, pN0 - no tumor involvement in 7 regional lymph nodes examined, pM1, not applicable - no metastasis

Table 1. Pathology Report

<table>
<thead>
<tr>
<th>Tissue</th>
<th>Appendix</th>
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</thead>
<tbody>
<tr>
<td>Histologic Type</td>
<td>Adenocarcinoma</td>
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<tr>
<td>Margins</td>
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<td>TNM Staging</td>
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Hospital Course

- Post-operatively, oxycodone and metronidazole continued, subcutaneous heparin started for deep vein thrombosis prophylaxis.
- Discharged home same day with prescriptions for oxycodone, amoxicillin/clavulanate, acebutolol, and ceftriaxone.
- Follow-up visits: CEA, CA19.9, and CA125 were ordered.
- Referral to colorectal surgeon and oncologist was made for further staging, right hemicolectomy, and close follow up.

Discussion

- AA is a rare appendicular neoplasm that most often clinically presents as acute appendicitis.1,4-6
- Age greater than 50, family history of colon cancer, unexplained anemia, smoking history, and male gender are all risk factors.1
- AA is typically diagnosed incidentally during pathologic examination, many patients require a secondary procedure.5,9
- Regardless of nodal involvement, patients with AA should undergo oncologic resection with formal right hemicolectomy.5,8
- In patients with node positive disease or distant metastasis, adjunctive chemotherapy with fluoropyrimidine and oxaliplatin is preserved.5,12
- Low grade adenocarcinoma without spread has excellent survivability.13,14
- Higher grade tumors with KRAS mutations or a signet ring cell subtype tend to have poorer outcomes.13,14
- Female gender has been linked to increased survivability even with less favorable histopathologic subtypes.13

Conclusion

- Appendicular adenocarcinoma is a rare appendicular neoplasm that presents similarly to acute appendicitis.
- Diagnosis requires histologic examination.
- Right hemicolectomy is standard of care.
- Advanced disease with nodal involvement or metastasis requires adjuvant chemotherapy.
- Providers should be cognizant of appendicular neoplasms when evaluating patients with suspected acute appendicitis as it can affect management.