A Perf-ect Diagnosis: Ileocolonic Crohn Disease Presenting As Acute Appendicitis

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BACKGROUND

- Crohn disease (CD) is a chronic inflammatory bowel disorder characterized by transmural inflammation and non-caseating small granulomas which may involve all parts of the gastrointestinal tract.
- CD involving the appendix is rare.
- Appendiceal CD often presents as lower abdominal pain which can mimic acute appendicitis.
- Incidence ranges from 0.2-0.62% of all appendectomies with a retrospective review from 2014 citing an overall incidence of CD diagnosed at the time of appendectomy to be 0.55%.

CASE PRESENTATION

18 year old male without known past medical history presented to the hospital with intermittent right lower quadrant abdominal pain which was worsening over 3 weeks.
- CT demonstrated acute appendicitis with possible early perforation.
- Treated non-operatively with antibiotics.

WEEK TWO

- Follow up CT scan 16 days later demonstrated bowel wall thickening of the distal ileum, proximal right colon, and appendix (Image 1).
- Admitted to 5-6 loose bowel movements per day at baseline prior to surgery.
- Referred to GI for suspicion of Crohn disease.

MONTH TWO

- Hospitalized with abdominal pain and fever.
- Repeat CT scan with persistent inflammatory changes.
- Work up for suspected Crohn disease ordered – see Table 1.
- Colonoscopy demonstrated a narrowed cecal lumen with ulceration and inflammation around the appendiceal orifice (Image 2) and an estomatus ileal valve – ileal and cecal biopsies were obtained (Images 3-5).
- Referred to the hospital for percutaneous drainage.

MONTH FOUR

- Complained of right groin pain and fever at follow up GI visit.
- MRE demonstrated a 4.8 x 6.1 x 2.2 cm right lower quadrant collection involving the right iliopsoas and iliacus consistent with psoas abscess (Image 6).
- Referred to surgery for consideration of appendectomy.

MONTH FIVE

- Underwent open ileocecectomy with primary anastomosis.
- Pathology demonstrated active Crohn disease with stricture, fistula formation (Image 7), and involvement of adjacent mesentry and appendix with abscess formation.

PRESENT DAY

- Feeling well without symptoms.
- Started on anti-TNF and optimized for a repeat colonoscopy timed for 6 months after his surgery.
- Requested a second opinion on management.

DISCUSSION

- Overall incidence of CD involving the appendix is low, but isolated appendiceal CD is even more rare with less than 250 cases reported in the literature as of 2015.
- Prognosis for isolated appendiceal CD appears to be better than more diffuse disease with involvement of the appendix.
- Appendectomy is the treatment of choice for isolated appendiceal CD with a reported recurrence rate of only 0-10%.
- Appendectomy alone in patients with suspected CD with involvement of the appendix has a high rate of fistula formation as seen in our patient.
- There is conflicting opinions in the literature regarding risk of developing CD following appendectomy, however this is felt to largely be secondary to diagnostic bias.
- Overall, this case highlights the importance of keeping an initial broad differential, taking an adequate history, and having a high index of suspicion when working up a case of suspected appendicitis with atypical symptoms and/or a prolonged course.

REFERENCES


ACKNOWLEDGEMENTS

- The authors thank Dr. Michael Scarlato of Health Network Labs Pathology Department for providing the pathology images (3–5 and 7).

Table 1. Labs at time of hospitalization in Month Two

<table>
<thead>
<tr>
<th>Hemoglobin</th>
<th>11.7 g/dL</th>
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<tbody>
<tr>
<td>Albumin</td>
<td>3.1 g/dL</td>
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<tr>
<td>ESR</td>
<td>35 mm/hr</td>
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<tr>
<td>CRP</td>
<td>61.5 mg/L</td>
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<tr>
<td>Fecal Calprotectin</td>
<td>212 µg/g</td>
</tr>
<tr>
<td>ANCA</td>
<td>Negative</td>
</tr>
<tr>
<td>ASCA IgG &amp; IgM</td>
<td>25 &amp; 23 (ref. 0-24.9)</td>
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