Chronic Appendicular Abscess Presenting as a Complex Adnexal Mass: A Case Report

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This study did not meet the regulatory definition of human subject research as defined in 45 CFR 46.102(d) and (f) of the Department of Health and Human Services'Code of Federal Regulations and was not subject to Institutional Review Board oversight.

Abstract

The authors present an unusual presentation of a chronic appendicular abscess. A 57-year-old presented to the emergency department with acute on chronic abdominal pain, worsening abdominal distention and decreased appetite. Abdominal imaging revealed the presence of a multi-septated cystic right adnexal mass concerning for metastatic ovarian carcinoma. Intra-operatively the diagnosis of a likely chronic ruptured appendix at the base of the colon was confirmed. Chronic appendicitis is a clinical oddity and is often associated with an extensive and prolonged diagnostic course.

Introduction

The overall incidence rate of ovarian cancer is increasing drastically. Over the past decade this rate continues to increase despite medical advances that have increased accuracy for characterizing and triaging adnexal masses, which is especially important if these masses show concerns for malignancy.[1,2] Ovarian cancer accounts for more deaths than all gynecologic cancers combined in the United States.[3] For gynecologists, adnexal masses must be taken seriously and diligently evaluated.

In postmenopausal women the majority of adnexal masses are benign neoplasms, however, the risk of malignancy is much greater than in premenopausal women. Postmenopausal women with clinical symptoms and findings on diagnostic imaging suggestive of malignancy warrant expedited management. While imaging and biomarkers help to give insight into origin of masses and can aid in determining treatment, diagnostic operations may be ultimately required to achieve final diagnosis and direct further management. Fortunately, the patient was not diagnosed with an ovarian carcinoma. Given the patients' circumstances and clinical picture, this was an inevitable surgery for her chronic abscesses and abdominal pain. The authors present a case of chronic abscess of the appendix presenting as a complex adnexal mass suspicious for metastatic ovarian cancer.

Case Report

A post-menopausal 57-year-old female was admitted from the emergency department for acute on chronic abdominal pain, worsening abdominal distention and decreased appetite. The patient reported a history of chronic abdominal pain previously relieved by conservative methods but progressively worsening over the past several months. Prior to presentation, the patient noticed an acute change in the duration and severity of pain. Her abdominal pain was continuous with new radiation into the left hip. This new change in pain was described as severe at baseline without any alleviating factors. Over the previous two to three weeks, the patient experienced a marked decrease in appetite. She also experienced bouts of diarrhea lasting 3-4 days at a time, which had been ongoing for the past 6 months. She denied melena or hematochezia and any recent sick contacts. She had no history of sexually transmitted diseases or recent vaginal infections.

On admission, the patient was normotensive and afebrile. She had a leukocytosis with a white blood cell count of 19.2 cells/mcL and was anemic with a hemoglobin of 9.7 gm/dL, hematocrit of 28.8% and platelet count of 734 platelets/mcL. A wet prep and gonorrhea/chlamydia swabs resulted negative. All remaining labs were within normal limits. Upon physical examination, the patient appeared to be in mild distress due to abdominal pain. She exhibited abdominal distention with a fluid wave and moderate tenderness in the right lower quadrant. A CT of the abdomen and pelvis reported diffuse multifocal loculated pockets of ascites throughout the abdominal cavity and omentum with a multi-septated cystic right adnexal mass measuring 5.8 x 5.1 cm (Figures 1, 2).

Figure 1: CT Abdomen Pelvis With Contrast- multiseptated cystic right adnexal mass measuring 5.8 x 5.1

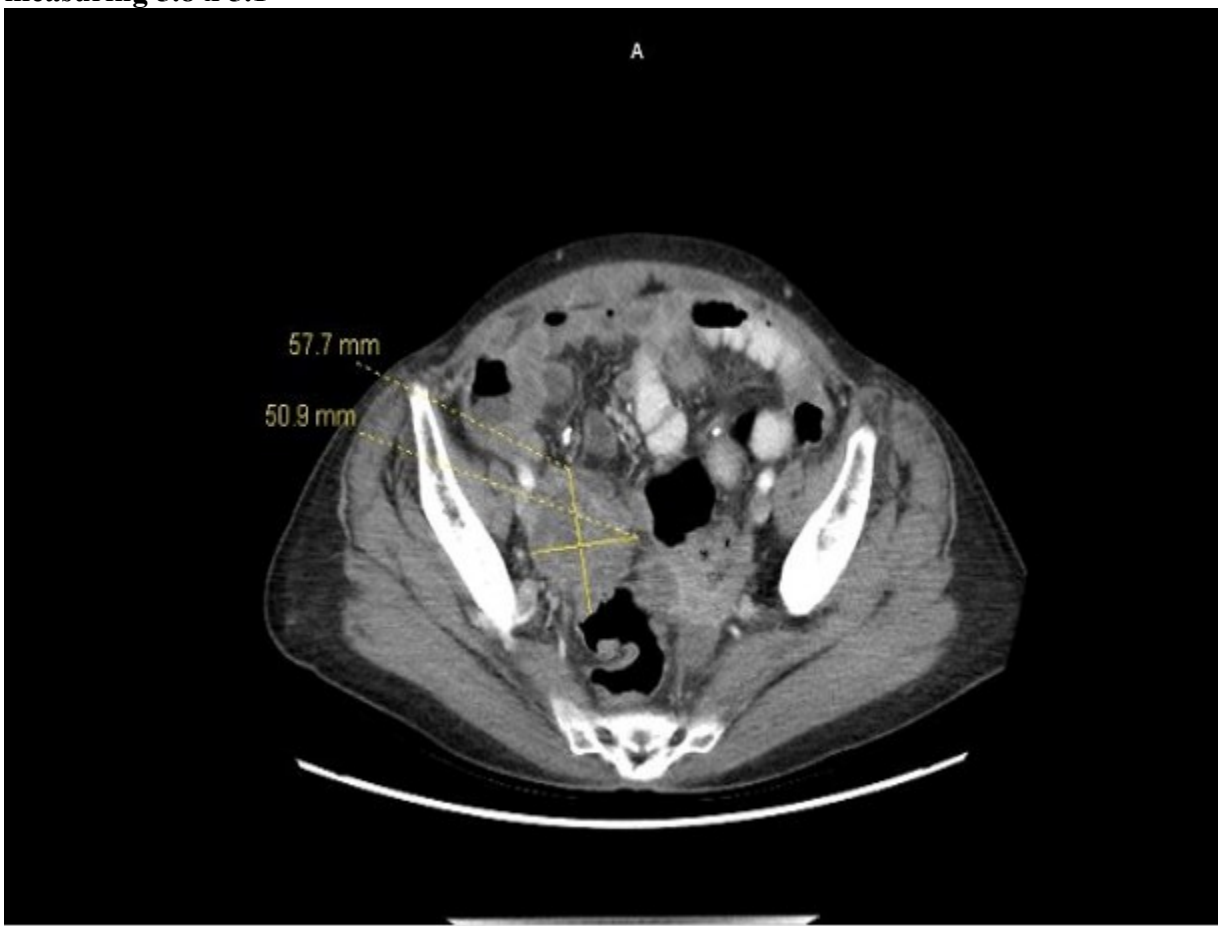
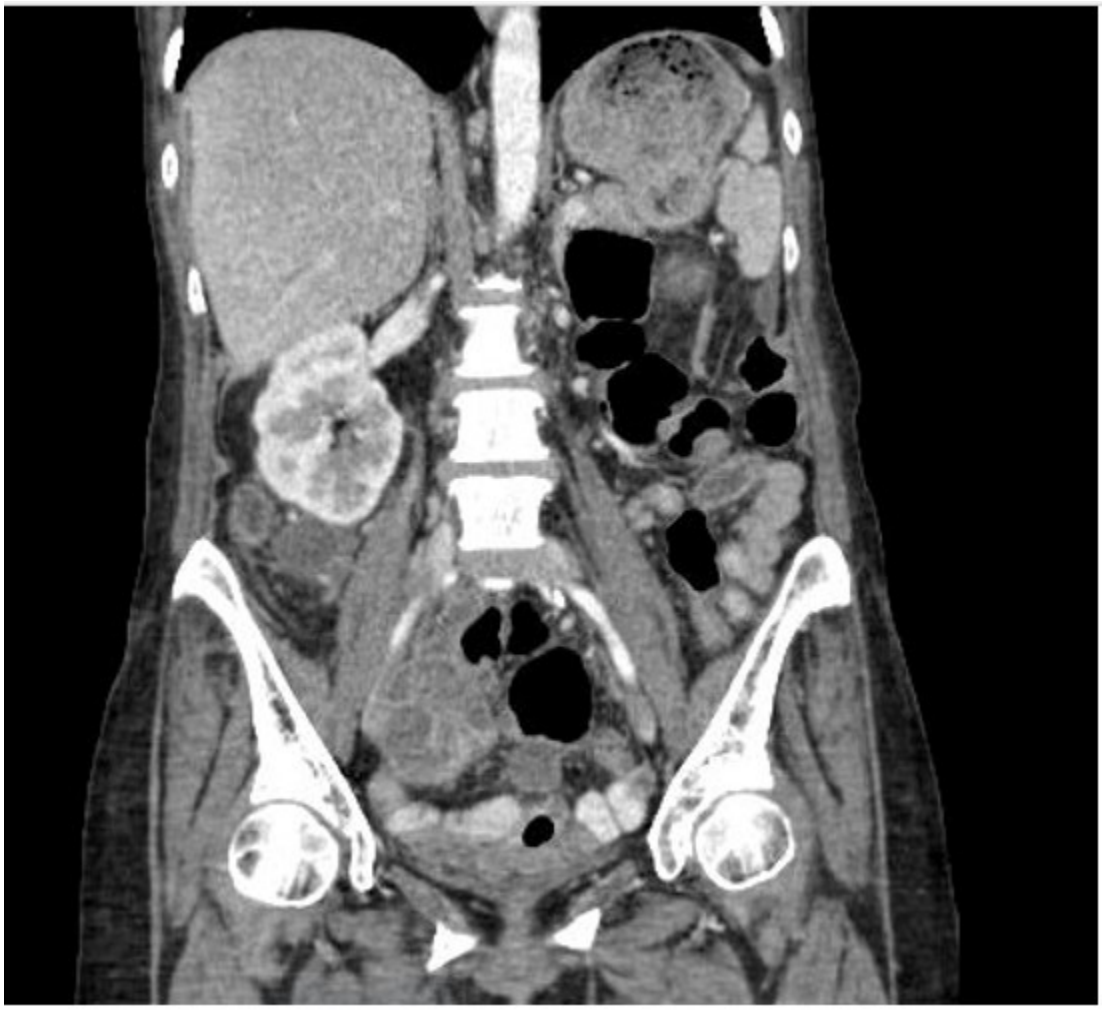


Figure 2: CT Abdomen/Pelvis- Diffuse multifocal loculated pockets of ascites throughout the abdominal cavity, with a multiseptated cystic right adnexal mass, concerning for metastatic ovarian carcinoma.



The patient was subsequently admitted. Due to high suspicion of malignancy secondary to omental findings and abdominal ascites, a gynecologic oncology consult was placed. A CA-125 returned at 70 kU/L (normal less than 35 kU/L) and a CT-guided biopsy of a suspected metastatic area was ordered in the case that neoadjuvant therapy would be needed. After an unsuccessful CT guided biopsy, it was decided to proceed with exploratory laparotomy.

Upon entry into the fascia, grainy and light green-colored debris came through the incision. The incision was slowly opened and an extensive adhesiolysis was undertaken. There were multiple foci of abscesses containing thick purulent material encountered between loops of bowel in the mesentery. During separation of bowel loops, multiple serosal injuries occurred. After approximately 3 hours of adhesiolysis, the bowel was freed adequately to gain exposure to the pelvic cavity. What appeared to be a probable chronic appendicular abscess was identified.

Cultures were obtained and a Gram stain was sent intraoperatively which demonstrated gram-positive cocci. There was no odor noted from any of the abscesses. Approximately 40 isolated abscessed areas were opened. Although there were some large areas, the majority were small with fairly limited debris. An intraoperative trauma surgery consult was requested for assessment due to the extent of

bowel injury and involvement of colon. The diagnosis of a likely ruptured appendix at the base of the colon was confirmed. It appeared that the rupture had sealed off and that all the abscesses were probably chronic, explaining the lack of odor. A portion of the appendix protruded into the retroperitoneum, and this was removed separately from the stump. Findings from the operation were consistent with a final diagnosis of chronic abdominal abscesses secondary to chronic appendicitis with ascites, edematous bowel, multiple enterotomies, and numerous serosal and muscularis injuries to the small bowel and sigmoid colon. The patient experienced an extensive postoperative recovery due to magnitude of bowel injuries and her lengthy operation.

Discussion

Adnexal masses can present in a variety of ways and yield pathology from simple cysts to infectious process or even metastatic carcinoma. On the contrary, the diagnosis of acute appendicitis is typically straight forward, classically manifesting with acute periumbilical pain localizing to the right lower quadrant, abdominal guarding, and leukocytosis. The atypical presentation of chronic appendicitis can often lead to misdiagnosis, particularly in sexually active females, or as in our case, patients presenting with symptoms consistent with an ovarian malignancy.[4]

Chronic appendicitis (CA) is a rare clinical entity with an incidence of 1.5% in all cases of chronic abdominal pain of unknown etiology.[4] CA poses as a diagnostic and therapeutic dilemma for clinicians since a majority of patients present with atypical symptoms.[5] It is very rarely thought to be the primary diagnosis due to the low frequency of occurrence. Complications such as perforation or abscess formation can occur when patients are improperly or inappropriately treated.[6,7] Severe abdominal pain associated with the condition can be almost continuous and last anywhere from months to years.[8] The atypical presentation of chronic appendicitis often leads to work up for other potential etiologies and ultimately provides no definitive answers.

Diagnosis of CA is mostly clinical but imaging modalities can be beneficial in diagnosis. Ultrasonography is a quick and relatively inexpensive modality for diagnosis of acute appendicitis. However, the evidence is lacking for its use for diagnosis of CA as there is currently no consensus in the appearance of CA on ultrasonography.[8] Traditionally CT imaging of the abdomen is considered to be the most accurate choice for diagnosing or eliminating cases of acute appendicitis. Though no known diagnostic criteria or management algorithm exists for chronic appendicitis, CT imaging is considered to be the most accurate approach for patients with an equivocal presentation.[4]

The exact underlying cause of CA is unknown but is perceived to come from partial persistent obstruction from fecaliths, tumors, foreign bodies or appendiceal folding.[9] Our patient differs from the typical findings as she had experienced an appendicular rupture that had resealed at some point prior to presentation. While the exact timeframe of rupture was undetermined, our patient's course leading up to her final diagnosis is very similar to that of chronic appendicitis. Treatment for chronic appendicitis is often a confusing and recurrent course. Though not considered to be a surgical emergency, the majority of patients with CA will have resolution of symptoms with an appendectomy.[4] Previous case reports exemplify the undulating course of initial response to antibiotics with return of symptoms weeks to months after assumed resolution.[9] It is unlikely that our patient would have benefited from conservative management with antibiotics given her clinical course and the extensive number of abscesses found during operation.

In summary, management of adnexal masses must be carried out in a timely and efficient manner. Obtaining the correct diagnosis of adnexal masses can pose a challenge. As no screening technique is

currently available, many ovarian malignancies are detected once masses become symptomatic, which tends to be in advanced stages. Chronic appendicitis is a clinical oddity and can be challenging for most clinicians to diagnose. A postmenopausal patient with chronic worsening abdominal pain, distention, and decreased appetite presenting with a complex adnexal mass and ascites is highly suspicious for ovarian malignancy. It is imperative to thoroughly review all images and consider subsequent imaging modalities to ensure infectious etiologies are excluded, but ultimately, diagnostic operations may be inevitable.

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