

An Unusual Presentation of Female Appendiceal Mucinous Neoplasm with Preoperative Suspicion of Mesenteric Cyst

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ABSTRACT

Background: Appendiceal mucinous neoplasms are uncommon tumors that can occur in the appendix and cause various symptoms. Detecting these tumors can be challenging, and diagnostic imaging, such as ultrasonography and computed tomography (CT) scans, is critical in identifying them before surgery.

Case Report: A 47-year-old woman complained of experiencing pain and a heavy feeling in her lower abdomen. Imaging tests were conducted, which showed a sizable cystic swelling located in the left lower quadrant of the abdomen. The imaging report described the swelling as either a mesenteric cyst or a pedunculated cystadenoma. During the surgical procedure, it was discovered that the patient had a significantly enlarged appendix that extended into the left abdominal cavity, measuring 19 cm in length and 9 cm in diameter. After the surgery, the patient completely recovered, and her symptoms subsided. The pathology report indicated that the patient had a low-grade appendicular mucinous neoplasm.

Conclusions: This case report highlights the importance of including appendicular mucocoele in the differential diagnoses with left lower abdominal mass to ensure timely diagnoses and improve patient management.

Key words: appendiceal mucinous neoplasm, AMN, case report, a mesenteric cyst

Abbreviations:

PMP - progressive multifocal peritoneal;
AMN - appendiceal mucinous neoplasm;
LAMN - low-grade mucinous neoplasm.

INTRODUCTION

Appendiceal mucinous neoplasm (AMN), or appendicular mucocoele (1), is an extremely uncommon tumor that develops in the vermiform appendix, accounting for fewer than one percent of all malignancies. AMN accounts for just 0.4% to 1% of all gastrointestinal malignancies in the United States. In its early stages, AMN might appear as acute appendicitis, which can be identified incidentally before or after surgery. When mucus builds, and the appendix enlarges, persistent abdominal discomfort and abdominal distension may develop. Possible additional symptoms include weight loss and anemia (2). This case report demonstrates the need to have appendicular mucocoele in the differential diagnosis of lower abdominal masses to enable rapid identification and appropriate care of this rare condition.

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CASE PRESENTATION

A 47-year-old female with a medical history of rheumatic heart disease reported to our surgical clinic with symptoms of hypogastric heaviness, early satiety, and occasional dull stomach discomfort. The discomfort was modest, intermittent, did not radiate to other areas, and was accompanied by occasional nausea, deteriorating abdominal distension, and occasional constipation. The physical examination revealed a large painless palpable mass in the left lower abdomen without any generalized adenopathy or palpable lymph nodes. Radiological findings were inconclusive, with abdominal ultrasound showing a large unilocular cystic swelling in the right side of the pelvis extending to mid-cavity. The patient was referred to computerized tomography suggesting the presence of an intraperitoneal cystic lesion with a high possibility of a mesenteric cyst. Magnetic resonance imaging showed an impression of a mesenteric cyst or pedunculated cystadenoma of the left/right ovary. All

tumor markers were negative, including CA-19-9, CEA, CA 125, and CA 15-3, leading to a suspicion of the mesenteric cyst and a decision to proceed with laparoscopic exploration (*fig. 1*).

The patient's medical history comprised mechanical prosthetic mitral valve replacement, embolic stroke, thyrotoxicosis, rheumatic heart disease, xenograft mitral valve replacement, echocardiography, mitral valve regurgitation, and a history of anemia and blood transfusion the previous year. On December 12, 2022, exploratory laparoscopy discovered an appendix measuring roughly 20 x 9 centimeters, prompting the decision to switch to an open operation. An appendectomy with partial cecectomy was done utilizing a purple endo GIA 45mm tri-stapler (*fig. 2*). No further observations were detected, and there was no evidence of metastases or carcinomatosis. The final pathology report indicated an appendicular mucocele caused by a low-grade mucinous neoplasm (LAMN) with negative margins and no malignant features. The patient's surgical course was unremarkable, and he was released

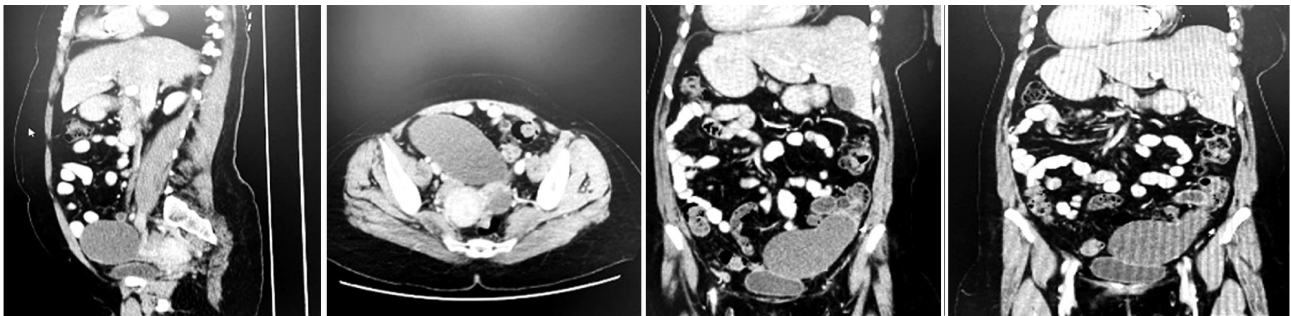


Figure 1 - Magnetic resonance imaging showed an impression of a mesenteric cyst

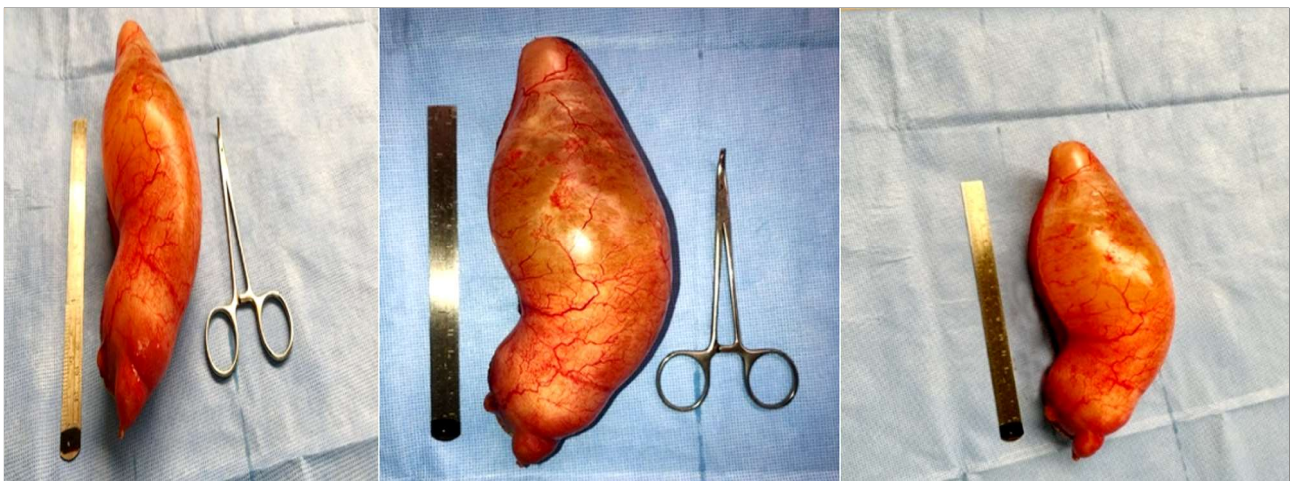


Figure 2 - Appendectomy with partial cecectomy was done utilizing a purple endo GIA 45mm tri-stapler

on day 7 after resuming warfarin. TNM stage consisted of PT3, PNx, PMx, and appendicitis. She has recovered without a problem and had an unremarkable colonoscopy result at her follow-up visit.

DISCUSSION

Appendicular mucocele categorization has proven difficult but has made great strides in recent years (3). In most cases, mucinous lesions of the appendix are discovered inadvertently during diagnostic imaging or endoscopy for unrelated issues or in the pathology specimen obtained after an appendectomy (4,5). The Peritoneal Surface Oncology Group International (PSOGI) has categorized appendiceal mucinous lesions into non-neoplastic and neoplastic kinds, which has helped to decrease uncertainty surrounding diagnostic nomenclature (6).

In this article, we report a case of an appendicular mucinous tumor with an unusual appearance. Most patients with appendiceal mucinous lesions, both benign and malignant, are in their 50s and 60s (7), and each year around 3,500 new instances are identified in the United States. Perhaps more females than men are affected.

Most patients with appendiceal mucinous lesions have no symptoms or mild ones, such as right lower quadrant abdominal discomfort. In contrast, those with ruptured lesions may have an intestinal obstruction, lower gastrointestinal bleeding, bloating, distention, and weight loss. Increased levels of tumor markers point to a malignant neoplasm as the cause (8,9). The transition of appendicular mucocele to pseudomyxoma peritonei (PMP) is not well understood but is an unpleasant side effect (10). Peritoneal dissemination due to appendicular mucocele perforation (PMP) may be localized to the peri-appendicular area in cases of benign PMP. Still, it can extend throughout the abdominal cavity in malignant PMP. Hyperplastic lesions (serrated polyps) and retention cysts (simple mucoceles) that burst do not often recur. In contrast, mucinous adenocarcinomas, mucinous neoplasms of the appendix, and the rupture of these tumors may cause the accumulation of mucinous ascites and malignant cells inside the peritoneum known as progressive multifocal peritoneal (PMP) (11).

A big symptomatic cystic mass in a female patient's lower abdomen strongly suggests an adnexal origin, so this patient's clinical condition was tough. Adnexal pathology must be ruled out initially because of this. Appendicular mucinous lesions are uncommon. However, they are thoroughly reported in the medical

literature. As was previously noted, they often exhibit vague symptoms and are uncovered by chance. If you have a mass or discomfort in your right lower abdomen, it's likely due to appendicular disease, while a mass on the other side of your abdomen is more likely to be caused by something else.

CONCLUSION

This case report emphasizes the value of incorporating appendicular mucocele in the differential diagnosis of a left lower abdominal mass to enable prompt diagnosis and better patient treatment.

Highlights

- The patient was referred to us by the gynecology clinic. After a CT scan ruled out an initial diagnosis of an ovarian cyst, we first suspected a mesenteric cyst before discovering AMN during exploratory laparoscopy.
- Appendicular mucocele in the deferential diagnoses with left lower abdominal mass to ensure timely diagnoses and improve patient management.

Conflict of interest

The authors declare no potential conflict of interest

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Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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