

Acute appendicitis as a form of presentation of appendicular mucinous neoplasm

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Abstract

A 52-year-old male presented with clinical signs and pre-operative imaging suggestive of acute appendicitis. A classic appendectomy was performed. Final pathology revealed a low-grade appendiceal neoplasm with acute inflammation of the appendix (10.5cm in length x 2cm in diameter). Appendiceal mucinous neoplasms are a heterogeneous group of tumors with a rising incidence, which can be further classified as low or high grade according to cytologic features. Treatment is based on stage and histology. The prognosis depends on the tumor stage, symptoms, perforation, the surgical approach, and the evidence of tumoral cells on surgical margins. Low-grade tumors are treated surgically with resection of the primary site in early-stage disease.

Keywords

ileocecal appendix; mucinous lesions; appendiceal mucinous neoplasm.

Introduction

Appendiceal mucinous neoplasms (AMNs) are a heterogeneous group of tumors with varying malignant potential, accounting for less than 1% of all cancers [1]. AMNs are classified as low-grade or high-grade dysplastic mucinous tumors [2,3]. The terms low-grade and high-grade appendiceal neoplasm can be used for lesions without infiltrative invasion but with the corresponding low or high grade of cytologic atypia [4].

The average age of diagnosis is above 50 years old, predominantly in females [5]. Patients with appendiceal tumors can present with nonspecific clinical manifestations or clinical manifestations mimicking an acute appendicitis presentation [1,5]. On the other hand, it can be asymptomatic and diagnosed incidentally by imaging studies [5].

Case Presentation

A 52-year-old male has come to the hospital for the evaluation of nausea and a moderate to intense right lower quadrant abdominal pain over a period of 24 h. He denies anorexia, vomiting or changes in bowel movements. There was no relevant surgical, medical, drug or allergic history. At initial evaluation, his vital signs were within normal limits. The physical examination of abdomen revealed decreased bowel sounds on auscultation, severe tenderness in the right lower quadrant with a positive Blumberg sign, and no pathological masses on palpation. The blood test was significant for an increased white blood cell count of 15.25 K/mm^3 and an increased C-Reactive Protein (10.08 mg/dL). The computed tomography of the abdomen and pelvis revealed a dilated appendix measuring up to 2.1 cm with mild inflammatory peri appendiceal fat stranding and calcification (Figures 1, 2 and 3). A classic appendectomy was performed without complications (Figures 4 and 5). Surgical pathology revealed a low-grade appendiceal mucinous neoplasm (LAMN) with acute inflammation of the appendix (10.5cm in length x 2cm in diameter). On June 2021 a CT scan control was performed reporting no evidence of tumoral activity or distance metastasis, neither pseudomyxoma peritonei evidence.

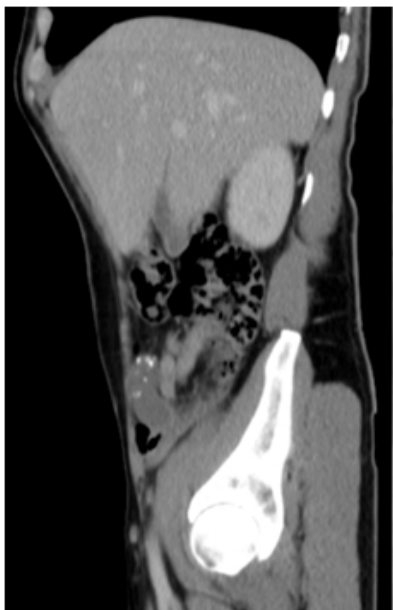


Figure 1: Sagittal CT scan image showing a dilated appendix measuring up to 2.1 cm with mild inflammatory periappendiceal fat stranding and calcification.

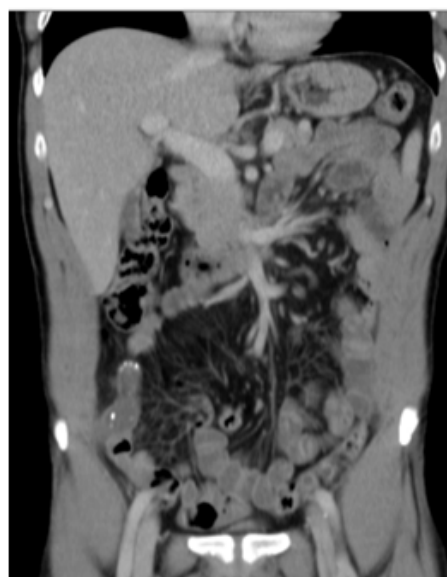


Figure 2: Coronal CT scan image showing a dilated appendix measuring up to 2.1 cm with mild inflammatory periappendiceal fat stranding and calcification.



Figure 3: Axial CT scan image showing a dilated appendix measuring up to 2.1 cm with mild inflammatory periappendiceal fat stranding and calcification.

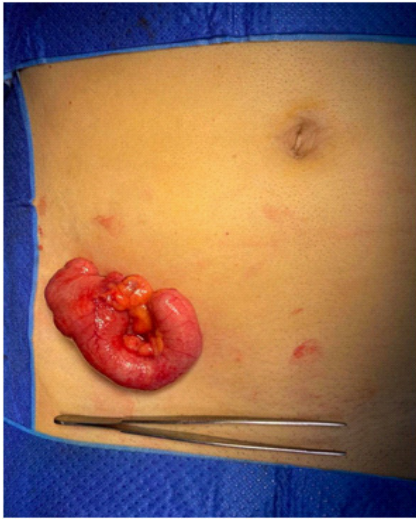


Figure 4: Intraoperative finding.



Figure 5: Intraoperative finding.

Discussion

LAMNs are a rare noninvasive epithelial tumor of the appendix [5]. This appendiceal mucinous neoplasm usually presents either asymptotically or mimicking an acute appendicitis with right lower quadrant pain as the main symptom [2]. Although they can present with symptoms suggestive of acute appendicitis, appendiceal tumors are only identified in approximately 1% of all appendectomies [6]. Establishing the diagnosis of LAMN is often only possible with the pathological analysis of the ileocecal appendix [2]. Mucinous adenocarcinoma of the appendix and high-grade appendiceal mucinous neoplasm (HAMN) are the main differential diagnoses for LAMN. Mucinous adenocarcinoma is characterized by infiltration of the appendiceal wall epithelium, often with desmoplastic reaction, which is not present in LAMN. The degree of epithelial dysplasia is what differentiates LAMN and HAMN [2]. Appendectomy is the most effective therapy for both acute appendicitis and LAMNs that are intact and confined to the appendix [2]. There is no risk of the recurrence if a LAMN was removed completely with free margins and without rupturing appendix or spilling mucin, and therefore specific follow-up or surveillance is not required [2]. The most feared complication is pseudomyxoma peritonei [5].

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