ACUTE APPENDICITIS MIMICKING A BENIGN CECAL TUMOR: A CASE REPORT

Marian Botoncea[1,2], Dragoș Călin Molnar[2], Cosma Cătălin Dumitru[2], Baltă Cătălin[2], Sandu Aprodu[2], Vlad-Olimpiu Butiurca[1,2], Călin Molnar[1,2]

[1]George Emil Palade University of Medicine, Pharmacy, Science and Technology, Târgu Mureș, Romania
[2]1st Surgical Clinic, Emergency Clinical County Hospital Târgu Mureș, Târgu Mureș, Romania

CASE REPORT

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Corresponding author:
Dragoș Călin Molnar
dragosmolnar2000@yahoo.com

Abstract

This case report highlights the diagnostic challenges and clinical decision-making in a case of acute appendicitis presenting with clinical and radiological features mimicking a benign cecal tumor. A 23-year-old male patient presented to the emergency department complaining of right lower quadrant pain, nausea, and vomiting, suggesting acute appendicitis. His clinical examination, laboratory findings, and computed tomography abdominal scan suggested acute appendicitis associated with an appendicular plastron. Catarrhal appendicitis and a cecal tumor attached to the anterolateral abdominal wall were observed during laparoscopic exploration of the peritoneal cavity. A laparoscopic appendectomy and a laparoscopically assisted partial longitudinal resection of the cecum were performed. The histopathological examination diagnosed acute catarrhal appendicitis and suppurative granulomatous inflammation of the cecal wall, which was rich in eosinophils. The postoperative evolution was favorable, and the patient was discharged on the eighth postoperative day. At one and three months postoperative, the patient was in good condition without any abdominal complaints.

Keywords: Catarrhal appendicitis, inflammatory cecal tumor, laparoscopic appendectomy, longitudinal cecal resection laparoscopically assisted

Introduction

Acute appendicitis, a common surgical emergency, is characterized by inflammation of the appendix and is well-recognized in clinical practice [1]. However, diagnosing acute appendicitis can be challenging [2], particularly when other pathologies mimic its clinical presentation. One such condition is an acute inflammatory tumor of the cecum, a rare but significant entity that poses diagnostic dilemmas [3]. The cecum, situated at the beginning of the large intestine, can develop inflammatory tumors that may present symptoms similar to acute appendicitis, leading to misdiagnosis and inappropriate management [3].

This paper reports a rare case of an inflammatory tumor of the cecum mimicking acute appendicitis. Written informed consent to publish this case was obtained from the patient.

Case presentation

A 23-year-old male patient without a significant medical history presented to the emergency department at the Emergency Clinical County Hospital in Târgu Mureș, Romania, complaining of right lower quadrant pain, nausea, and vomiting. These symptoms had developed suddenly, persisted for approximately 24 hours, and worsened progressively despite the use of painkillers. During the anamnesis, the patient highlighted that the pain started in the periumbilical area and, after a couple of hours, localized in the right iliac fossa.

On admission, the clinical examination revealed a distended, spontaneously painful abdomen, exacerbated by superficial and deep palpation of the right iliac fossa. The rebound tenderness (Blumberg) and Rovsing sign were positive, indicating peritoneal irritation.

Laboratory findings revealed elevated inflammatory markers: the white blood cell count was 11.8×103/μL, and the C-reactive protein (CRP) level was 31.6 mg/L. The blood biochemical parameters reflecting liver function, renal function, and electrolytes were normal.

A computed tomography (CT) scan of the abdomen and pelvis revealed an appendix with spontaneously hyperdense mucosa, surrounded by a mass of enteral loops fixated to the anterior abdominal wall; this condition was associated with general stasis, edematous infiltration of the periappendicular adipose tissue, minimal liquid collection at this level, and several lymph nodes with an inflammatory aspect (up to 8 mm in size), likely appendicular plastron, and minimal free fluid collection at the rectovesical recess level.

Given the patient's clinical examination and laboratory and CT findings, he was admitted to Surgical Clinic 1 at the Emergency Clinical County Hospital for specialized treatment.

The patient was taken to the operating room, and laparoscopic exploration of the abdominal cavity was performed under general anesthesia. The exploration of the abdominal cavity excluded an appendicular plastron. However, it revealed an appendix with minor inflammation and a tumor of the cecum fixated to the anterolateral abdominal wall (Figure 1).

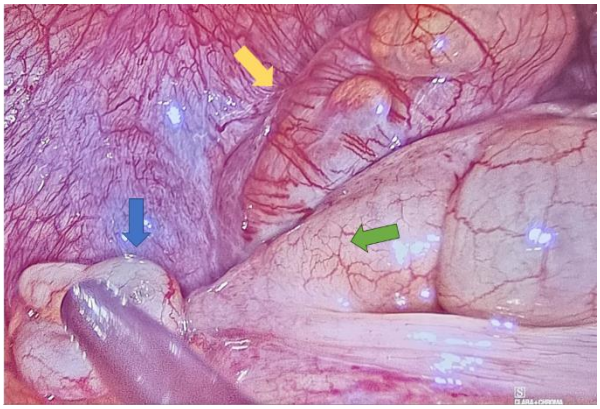

Figure 1 - The appendix (blue arrow), the cecum (green arrow), and the cecal tumor attached to the anterolateral abdominal wall (yellow arrow). The photo is from the authors' personal archive.

Given the patient's age, we decided to perform a laparoscopic appendectomy, dissection of the tumor from the anterolateral abdominal wall, and a laparoscopically-assisted partial longitudinal resection of the cecum (Figures 2 and 3) with retrocecal drainage (Figure 4).

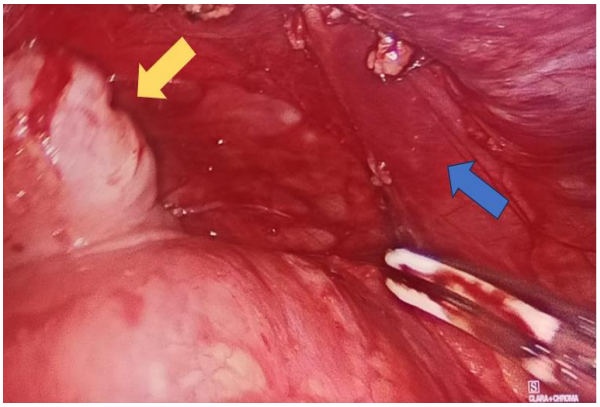

Figure 2 - The cecal tumor detached from the anterolateral abdominal wall (yellow arrow) and the dissected area of the abdominal wall with the peritoneum removed (blue arrow). The photo is from the authors' personal archive.

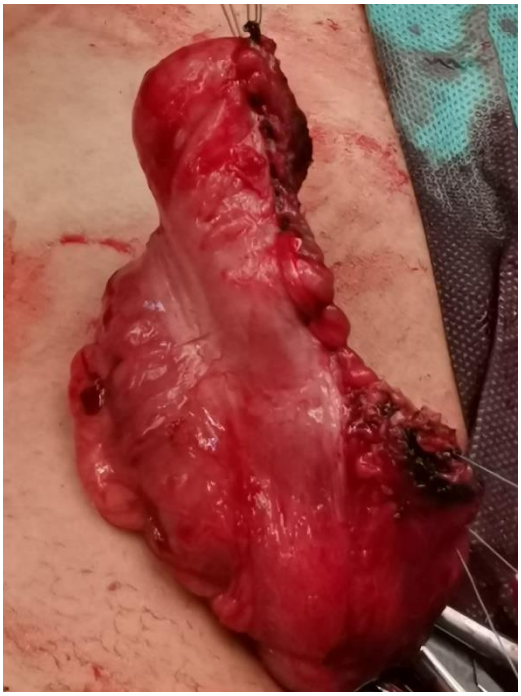

Figure 3 - Longitudinal cecal resection. The photo is from the authors' personal archive.

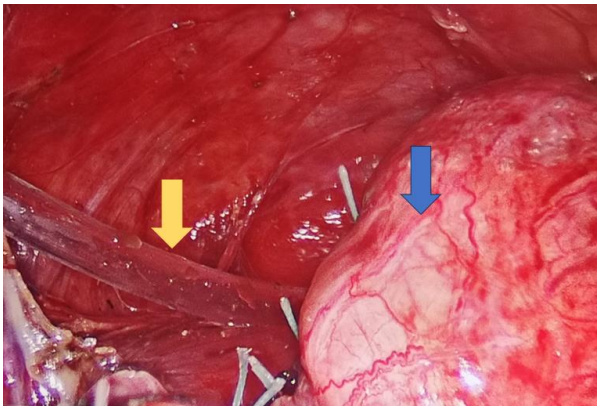

Figure 4. The drainage tube (yellow arrow) and the cecum (blue arrow). The photo is from the authors' personal archive.

The patient's postoperative course was uneventful, and he was discharged on the eighth postoperative day in good condition, afebrile, and with intestinal transit. His surgical wound was healing without pathological secretions.

The histopathological examination established the following diagnosis: acute catarrhal appendicitis and a non-specific abscessed suppurative granulation inflammatory process at the cecal wall level that was rich in eosinophils.

At his one-month postoperative follow-up, the patient was in good condition, without any abdominal complaints, and his wound was cicatrized (Figure 5). At three-month postoperative follow-up, the patient was again in good condition without any abdominal complaints.

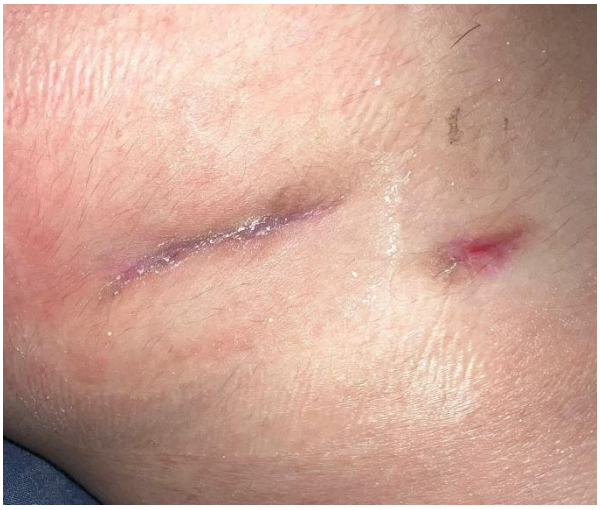

Figure 5 - The wound aspect at one month postoperative. The photo is from the authors' personal archive.

Discussions

The presented case exemplifies the diagnostic complexities associated with distinguishing acute appendicitis from benign cecal tumors. Inflammatory pseudotumors, first described in 1953 in a patient after a right hepatic lobectomy [4], are considered a rare benign tumor that can occur in almost every organ. They have been associated with infections, such as human herpes virus, cytomegalovirus, Epstein–Barr virus, and actinomycetes, and are related to previous abdominal surgery or trauma and cytokine production [4,5]. These pseudotumors are known for their ability to mimic malignant tumors clinically and radiographically, leading to diagnostic and therapeutic challenges [4].

Our case highlights the importance of comprehensive diagnostic approaches,

including advanced imaging and histopathological examination, to differentiate between acute appendicitis and benign or malignant cecal tumors. The initial CT scan, which was suggestive of an appendiceal plastron, was challenged by the presence of a tumor-like lesion in the cecum, which was later histopathological identified as an inflammatory process. CT scans and extemporaneous biopsy are pivotal in such cases since they provide crucial details to guide the differential diagnosis of a benign or malignant tumor. CT has a 95% sensitivity for diagnosing neoplasms, especially in symptomatic patients, but there might be cases where small tumors like neuroendocrine tumors cannot be seen [6].

One challenge in differential diagnoses is acute Crohn's disease in the cecum or terminal ileum that mimics acute appendicitis. In such cases, it is crucial not to remove the appendix if Crohn's disease involves its base due to the high risk of complications such as leaks and fistulas. However, when the base of the appendix is unaffected, it should be removed, even if it appears normal, to prevent future diagnostic confusion between acute Crohn's disease and acute appendicitis [7].

Furthermore, our case underscores the significance of considering a broader differential diagnosis in patients presenting with symptoms typical of acute appendicitis, especially when atypical findings are observed during diagnostic evaluations. The treatment approach in such ambiguous cases requires a balance between the urgency of addressing acute appendicitis and the caution needed due to the potential presence of a tumor.

Conclusions

The presented case of acute appendicitis imitating a tumor highlights the difficulties in accurately identifying abdominal diseases that have similar symptoms. It emphasizes the importance of a collaborative process, including evaluating clinical information, conducting imaging tests, and examining tissue samples. This case also highlights the significance of remaining vigilant for diagnoses, particularly when there are unusual symptoms or test results. Timely and precise diagnosis is critical in determining the suitable surgical intervention and can greatly affect patient outcomes.

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