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CASE REPORT

Lipomatosis of appendix in a teenager

Inthujan Shanmugarajah[1] | **Bendik H. Sundrehagen**[2] | **Eivind A. Warberg**[3] | **Airazat M. Kazaryan**[3,4,5,6,7]

[1]Department of Plastic Surgery, Østfold Hospital Trust, Grålum, Norway

[2]Department of Pathology, Østfold Hospital Trust, Grålum, Norway

[3]Department of Gastrointestinal Surgery, Østfold Hospital Trust, Grålum, Norway

[4]Intervention Centre, Oslo University Hospital - Rikshospitalet, Oslo, Norway

[5]Institute for Clinical Medicine, Medical Faculty, University of Oslo, Oslo, Norway

[6]Department of Faculty Surgery No 2, I.M. Sechenov First Moscow State Medical University, Moscow, Russia

[7]Department of Surgery No 1, Yerevan State Medical University After M.Heratsi, Yerevan, Armenia

Correspondence
Inthujan Shanmugarajah, Department of Plastic Surgery, Østfold Hospital Trust, Grålum, Norway.
Email: Inthujan@live.no

Abstract

Case of rare diagnosis of lipomatosis of appendix was established based on histologic report of appendicular specimen after laparoscopic appendectomy for suspected appendicitis in 16-year-old boy. Application of imaging modality may avoid unnecessary appendectomy.

KEYWORDS

diagnostic imaging, diagnostic mimicry, lipomatosis of appendix, unnecessary appendectomy

1 | INTRODUCTION

Acute abdominal pain is a common cause of referral to the emergency department. We want to present a case, a teenage boy with a clinic suspect for acute appendicitis (AA), but histological different diagnosis and dilemmas bound to it.

2 | CASE PRESENTATION

A 16-year-old boy was referred to the emergency department with acute abdomen. He was otherwise healthy and had no previous surgery.

He reported just above three days of abdominal pain localized to the right lower quadrant, intermittent fever, pain increasing with motion, and lack of appetite. There was no report of traveling abroad or other infections in the last months.

Clinical examination revealed reduced general condition. Except pulse and temperature, slightly tachycardia and 38.2 °C, the other measurements were within normal reference area. The main findings of the clinical examination were tenderness and rebound tenderness on palpation in the right lower quadrant of the abdomen, and indirect rebound tenderness on palpation in the left lower quadrant. Blood work showed CRP 56 mg/L (<6) and WBC 9.8• 10^9/L (3.5–11), other relevant blood tests were in normal reference area.

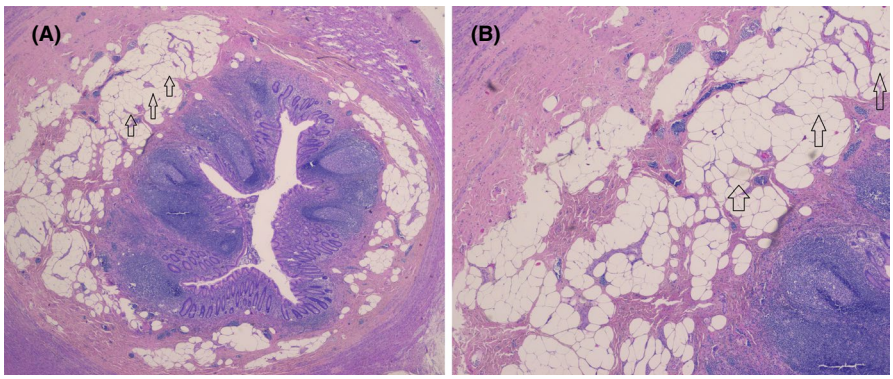

FIGURE 1 Staining: H&E, 1a: magnification 2x, 1b: magnification 4x. Specimen of appendix with normal mucosa. There are plenty of lymphoid tissue in gut wall, but no sign of acute inflammation. Rich infiltration of mature fat cells in submucosa, representing lipomatosis. The arrow showing submucosal fat.

2.1 | Diagnosis and treatment

AA was suspected and he was referred to acute laparoscopic appendectomy (LA). The appendix was intraoperatively described as minimally inflamed in the apex. Laparoscopic bowel orientation was done with no other findings. Appendectomy was performed and appendix sent to routine pathological examination. The patient achieved early recovery after surgery with analgesia provided by paracetamol and ibuprofen as well as minor dosage of opioids (morphine 1 mg and tramadol 50 mg) applied only at the day of surgery. No complications were registered, and the patient was discharged the next day after surgery. He was informed after 30-day post-surgery about histology and reported no sequelae after surgery. The pathologist described the appendix with no signs of inflammation, but rich infiltration of fatty tissue in the submucosa consistent with lipomatosis (Figure 1).

3 | DISCUSSION

This case presents a typical presentation of AA, diagnosis predominantly based on clinic. Histology described lipomatosis as main findings in the specimen and no signs of inflammation. Lipomatosis or lipohyperplasia is defined as increased infiltration of highly differentiated fat in the submucosal layer of the bowl, the ethology is unknown and it differs from lipoma due to lack of capsule. Lipomatosis in appendix is rare; lipomatosis in colon has a reported prevalence around 0.2%, however, there are no numbers for prevalence of lipomatosis in children.[1]

Presentation of lipomatosis is non-specific and has symptoms like abdominal pain, diarrhea, constipation, sub-ileus/ileus, and bleeding. CRP represented a confounding factor in the clinical setting of our patient. AA can be a presentation form of lipomatosis, however, few cases are reported in the literature.[1,2] Mechanical obstruction of stool discharge from appendix due to lipomatosis is the assumed cause. Recently published study showed significant association between increase in diameter of ileocecal lipomatosis and appendicitis formation.[3] What makes our patient special is the clinical presentation of appendicitis, but histological lipomatosis without any inflammation of the appendix. Similar cases are reported in adults, but no case of lipomatosis in appendix in children to our knowledge.[4]

There are no established treatment guidelines for colon lipomatosis. Treatment is based on clinical presentation, from asymptomatic with no treatment to acute surgical complication with surgical exploration. Our patient underwent surgery, with no preoperative imaging. We did not use scoring tools like the Alvarado score or Appendicitis Inflammatory Response score, but retrospectively the patient had clinical presentation compatible with AA, and therefore, diagnostic laparoscopy without preoperative imaging was prescribed. LA is still an invasive procedure with overall complication rate 8.7%–13.3%, if preoperative imaging had been considered, ultrasonography would have been first choice.[5-7] LA is not a harmless procedure; increased morbidity is described in patients with negative LA.[7,8]

4 | CONCLUSION

Lipomatosis in appendix is rare, and even rarer in children, which is the case of our patient. LA is not harmless; consider diagnostic imaging following guidelines in patients with suspected acute appendicitis.

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None.

CONFLICT OF INTEREST
None declared.

AUTHOR CONTRIBUTIONS
IS: first author, responsible for idea, writing, review, revision and paper submission. BHS: responsible for review and revision. EAW: responsible for review and revision. AMK: responsible for review and revision.

ETHICAL APPROVAL

Informed consent was obtained from the patient.

DATA AVAILABILITY STATEMENT

Data sharing not applicable - no new data generated.

ORCID

Inthujan Shanmugarajah https://orcid.org/0000-0001-5207-048X
Airazat M. Kazaryan https://orcid.org/0000-0001-9960-0820

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