

Parasite emerging from the appendix: A case report

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Abstract

Enterobiusvermicularis is the most common parasitic infection. In some cases, it can cause appendicitis. Pinworms have been seen escaping into the peritoneal through the appendix. we report rare case illustrating Pinworms in the peritoneal cavity during laparoscopic appendectomy.

Introduction

Enterobiusvermicularis is the most common parasitic infection in developed countries with temperate and cool climates. The role of E. vermicularis in appendicitis remains controversial. Patients with infestation of the vermiform appendix with E. vermicularis can present with clinical features of appendicitis, often described as

‘appendiceal colic’, independent of the histological confirmation of acute inflammation. During laparoscopic surgery, there is a risk of releasing the pinworms into the peritoneal cavity. We present a case of appendicitis due to E. vermicularis with migration of the worms to the peritoneum during appendectomy.

Case Presentation

We report a case of a 48-year-old male with no pathological medical history, the patient presented to the emergency department with right side abdominal pain with concomitant fever and vomiting. On physical examination, the patient was febrile with a temperature of 39 °c, an abdominal tenderness in the right lower abdominal quadrant. The biological blood test showed a leukocyte count of 14,500 E/mm³, a neutrophil count of 13,000 /mm³ and a normal eosinophilic count. An ultrasound examination showed thickening of the appendix

without evidence of fecalith or perforation. Thus, acute appendicitis was suspected, and surgical removal was decided. A laparoscopic appendectomy was performed. During the surgery, worms were seen emerging from the appendix and also localized in the peritoneum. Histologic analysis identified Enterobiusvermicularis. After surgery, the patient was treated with albendazole, and he had no complications or recurrence at follow-up 1 year later. (**Video 1, 2 and 3**)

Discussion

Incidence of pinworms in patients with symptoms of appendicitis is estimated at 0.2–41.8 % [1].

Infection is most common in children; especially young female patients with a sex ratio of 3/1 [2].

Enterobiusvermicularis appendicitis is a rare manifestation of this infection and it’s rarely diagnosed preoperatively [3].

The usual site of adult E.vermicularis is the lumen of the caecum and vermiform appendix where, in heavy infections, the worms may cause abdominal pain, nausea, vomiting, insomnia and occasionally appendicitis [2].

The explanation for the localization at the peritoneum would be by passage of the worms through the intestinal wall by active penetration which is rare [4].

Living worms in the wall of the appendix appear to be able to live in perfect symbiosis with the tissues, causing no inflammatory reaction [5].

However, unless ulcerated or perforated, it seems unlikely that the intestinal wall would allow the worms to transgress it; it is very unusual to find the parasite within the wall [4].

Pinworms have been seen to have escaped into the peritoneal cavity through perforations in the intestine or through the appendix and to be buried in the gut wall with no obvious site of entry [5].

In females, the usual route to the peritoneum is via the genital tract. This explains why peritoneal lesions due to oxyuriasis are mostly found in adult women. Its presence on the peritoneum in males can only occur if the appendix perforates as a result of inflammation and the worm escapes such as described in our case [5].

E.vermicularis is very rarely encountered during appendectomy [6]. Appendectomy should proceed with caution if the appendix is observed not to be acutely inflamed as there is a possibility of E. vermicularis infection and hence a risk of peritoneal contamination

[7] as illustrated in our case where pinworms were seen emerging from the appendix to the peritoneum during the operation.

So, surgeons must be aware of the possibility of pinworm infestation in the appendix and should avoid the contamination of the abdomen with pinworms while performing appendectomy.

If there is spillage of worms in the abdomen they must be dealt by diathermy or endoscopic suctioning [1].

Conclusion

Our case illustrates the importance of maintaining a high index of suspicion of *E. vermicularis* infestation of the vermiform appendix, even in male patients presenting with ‘appendiceal colic’ type pain. Surgeons should consider this differential diagnosis especially when

The peritoneal infestation may exacerbate the existing inflammation, causing generalized peritonitis or may give rise to fibrosis which can simulate carcinoma or Crohn's disease [5].

It's imperative that patients receive antihelminthic treatment after surgery, because the appendectomy treats only the consequence but not the reason of the disease [7]

removing a macroscopically non-inflamed appendix and hence, take the necessary precautions to minimize any risk of peritoneal contamination.

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Dr. Mossaab Ghannouchi: primary author and operating surgeon, Dr. Moussa ameni: coauthor; Dr. Mohamed ben Khalifa and Dr. Asma chaouch: both involved in the clinical evaluation of the patient, intervention, and follow-up, Dr. Karim Nacef: critically reviewed the drafts: Prof. moez boudhokhan: supervision of report writing.

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