

A rare cause of acute appendicitis: Infestation of enterobius vermicularis †

Nadir bir akut apandisit nedeni: Enterobius vermicularis enfestasyonu

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ABSTRACT

Acute appendicitis is the result of obstruction of appendiceal lumen. Although fecal impaction and lymphoid hyperplasia are the most common causes of the luminal obstruction, parasitic infections can also be the reason of luminal obstruction and can cause acute appendicitis. A 35-year-old female patient applied with the complaints of abdominal pain and nausea, and hospitalized with the presumptive diagnosis of acute appendicitis. Explorative laparotomy was performed. Operative findings were consistent with acute appendicitis and appendectomy was performed. The patient's postoperative course was unremarkable and she was discharged on postoperative 2nd day. The pathology was reported as acute appendicitis caused by infestation of *Enterobius vermicularis*. Herein, a case report of acute appendicitis caused by enterobius vermicularis is presented.

Keywords: Acute appendicitis, enterobius vermicularis, parasitic infections

ÖZ

Akut apandisit, apandiks lümeninin tıkanması sonucu gelişmektedir. Fekal impaksiyon ve lenfoid hiperplazi lüminal obstrüksiyonun en sık görülen nedenleri olsa da parazitik enfeksiyonlar da lüminal obstrüksiyona yol açarak akut apandisite yol açabilmektedir. Otuz beş yaşında kadın hasta karın ağrısı ve bulantı yakınmaları ile başvurmuş olup, akut apandisit ön tanısı ile interne edilmiştir. Eksploratif laparotomi yapılmıştır. Operatif bulgular akut apandisit ile uyumlu olarak bulunmuş ve apandektomi yapılmıştır. Hastanın postoperatif dönemi komplikasyonsuz olup, hasta postoperatif 2. günde taburcu edilmiştir. Patoloji sonucu, enterobius vermicularis enfestasyonu kaynaklı akut apandisit olarak raporlanmıştır. Bu olgu sunumunda, enterobius vermicularis kaynaklı akut apandisit olgusu sunulmaktadır.

Anahtar kelimeler: Akut apandisit, enterobius vermicularis, parazitik enfeksiyonlar

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INTRODUCTION

Acute appendicitis is one of the most common causes of acute abdomen. The main pathology is the luminal obstruction of appendix which can be the result of fecal impaction, lymphoid hyperplasia and parasitic infections ⁽¹⁾. Its etiologies vary with the gender, age, and socio-economical status of the patient, and the region of the country. Lymphoid

hyperplasia is the most common cause of the acute appendicitis in children whereas fecal impaction is the main cause in adults ⁽²⁾. Among the parasitic infections, *Enterobius vermicularis*, *Ascaris lumbricoides*, *Schistosoma* spp. and *Taenia* spp can be found ⁽³⁾. Infestation of *Enterobius vermicularis* is found to be more common in females and children, and detected in 0.2 to 41.8 % of the patients operated for acute appendicitis worldwide ⁽⁴⁾.

CASE PRESENTATION

A 35 year-old female patient applied to the emergency service with the complaints of abdominal pain and nausea started two days ago. The patient had no other significant symptoms including diarrhea, constipation and fever. On physical examination, the patient had demonstrated significant tenderness and rebound tenderness in right lower quadrant. Laboratory results were unremarkable except leucocytosis which was $11.000/mm^3$ (normal limit: $4200-10.600/mm^3$). Abdominal ultrasound (USG) and computed-tomography (CT) revealed fluid collections in the perisplenic, perihepatic and pelvic regions. With the presumptive diagnosis of acute appendicitis explorative laparotomy was performed.

Operative findings were massive fluid collection and acute appendicitis which were supported by appendiceal hyperemia and edema. There were no other significant findings in the abdomen. Appendectomy was performed. The postoperative course of the patient was unremarkable, and she was discharged on 2nd postoperative day.

The pathological findings revealed acute appendicitis with eosinophilic infiltration of the luminal mucosa of the appendix. The parasitic eggs of *Enterobius vermicularis* were demonstrated in the appendiceal lumen (Figure 1, 2).

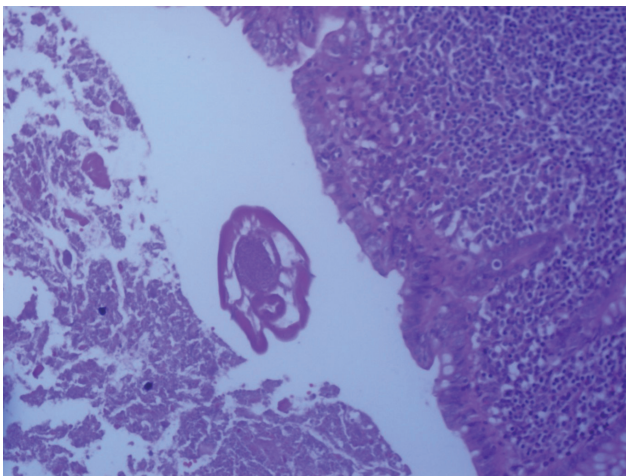


Figure 1a, 1b. The parasitic eggs of *Enterobius vermicularis* located in the lumen.

DISCUSSION

Acute appendicitis is the most common cause of acute abdomen and the most frequently performed abdominal emergency surgical procedure ⁽⁵⁾. The main pathophysiology is the obstruction of the appendix lumen. Parasitic infections are among the causes of the luminal obstruction which results in acute appendicitis. *Enterobius vermicularis*, *Ascaris lumbricoides*, *Schistosoma* spp. and *Taenia* spp are the most common parasitic infections seen in the etiology of acute appendicitis.

The infestation of *Enterobius vermicularis* is usually asymptomatic, and the most common symptom is itching. It has been also reported that the infestation can cause ileocolitis, mesenteric abscess, urinary tract infections, salpingitis and appendicitis ⁽⁶⁾. The infestation of *Enterobius vermicularis* is found to be more frequent in females ⁽⁷⁾.

There are several retrospective studies investigating the incidence of *Enterobius vermicularis* infestation in acute appendicitis. Depending on the region of the country, the incidence of the infestation also changes. In two different studies from Turkey, *Enterobius vermicularis* was identified in 3.8 % and 2 % of the patients operated for acute appendicitis ^(8,9). Wiebe et al. ⁽⁷⁾ and Ramezani et al. ⁽¹⁰⁾ reported that its incidence was 1.5 % in Brazil and 2.9% in Iran.

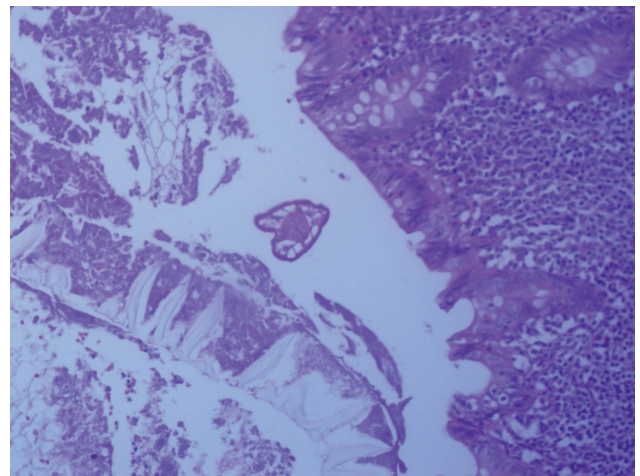


Figure 2. Eosinophilic infiltration of the luminal mucosa of the appendix.

Enterobius vermicularis can cause clinical symptoms resembling to those of acute appendicitis without causing any inflammation on the appendix wall (4,8,11,12). As in our case, infestation of *Enterobius vermicularis* causing an inflammation on appendix wall has been reported as a rare condition. Although in clinical setting, proceeding with appendectomy is justified, antihelminthic treatment should also be provided following surgery (13).

CONCLUSION

Parasitic infections are rare causes of acute appendicitis which should be considered in patients with clinical symptoms of acute appendicitis.

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