ENTEROBİUS VERMİKÜLARİS VE TAENİA SPP.'YE BAĞLI AKUT APPENDİSİT: OLGU SUNUMU

Acute Appendicitis Caused by Enterobius Vermicularis And Taenia Spp.: Case Report

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ÖZET

Tüm dünyada acil cerrahi operasyonların en sık nedeni akut apandisittir. Helmintler, bakteri ve viruslar gibi akut apandisit tablosu oluşturabilirler. Ancak apendiksin Enterobius vermikülaris ve Tenya spp. ile eş zamanlı enfestasyonu oldukça nadirdir.
Onyedi yaşında, karın ağrısı şikâyeti ile acile başvuran kadın hastaya akut apandisit ön tanısı ile apendektomi uygulandı. Apendiks serozası makroskopik olarak ödemli ve hiperemik görünümde idi. Lümen içerisinde fekalit mevcuttu. Mikroskopik olarak lümen içerisinde Tenya spp. proglottid ve yumurtaları ile E. vermikülaris erişkin formu ve akut apandisit bulguları izlendi.

Her iki helminte bağlı akut apandisit olgusunu, nadir görülmesi ve bildiğimiz kadarıyla İngilizce literatürde şu ana kadar tanımlanan ikinci olgu olması nedeni ile sunulmaktadır.

Anahtar kelimeler: *Apandisit; Parazitler, Enterobius, Tenya*

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ABSTRACT

Acute appendicitis is the most common cause of emergency surgeries, all over the world. Helminths like bacteria and viruses may cause acute appendicitis. However, superinfection of appendix with Enterobius vermicularis and Taenia spp. is very rare.
Seventeen-year-old female patient, with abdominal pain underwent appendectomy, with preoperative diagnosis of acute appendicitis. On macroscopic examination, appendectomy specimen was hyperemic and edematous with fecalithes in the dilated lumen. On microscopic examination; proglottides and eggs of Taenia spp. and mature form of Enterobius vermicularis were identified in the lumen, with associated acute appendicitis findings.

Here we report a very rare case of concomitant infection of appendix with Taenia spp. and Enterobius vermicularis, which is also the second case in the English literature according to our knowledge.

Key words: *Appendicitis, Parasites, Enterobius, Taenia*

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INTRODUCTION

Parasitic and protozoal infections of the gastrointestinal tract affect more than half of the world population, especially in the developing countries (1). The helminths that mostly affect appendix are; Enterobius vermicularis, Taenia species, Ascaris and Schistosoma (1-8). They may cause appendicitis or appendiceal colic mimicking appendicitis (2). The concomitant infection of appendix with Enterobius vermicularis and Taenia spp. was presented only once in English literature (3). In this report, we present the second acute appendicitis case caused by both Enterobius vermicularis and Taenia spp., to draw attention to this rare cause of acute appendicitis.

CASE REPORT

Seventeen year old female patient underwent appendectomy with a preoperative diagnosis of acute appendicitis. On macroscopic examination, the appendectomy specimen seemed hyperemic and edematous. Appendix was 7 cm in length, 0.7 cm in diameter and was measured to have a wall thickness of 0.2 cm. The cut surface revealed fecalithes in the dilated lumen.

On microscopic examination, the mature form of female Taenia spp. and the eggs with thick brownish golden reflective walls (Figure 1,2), showing fine radiations were identified in the lumen as well as the mature form of Enterobius vermicularis. One of the microscopic sections revealed an adult Enterobius vermicularis in the wall of the appendix. Also, an eosinophilic and neutrophilic inflammation was detected in the submucosa (Figure 3,4).

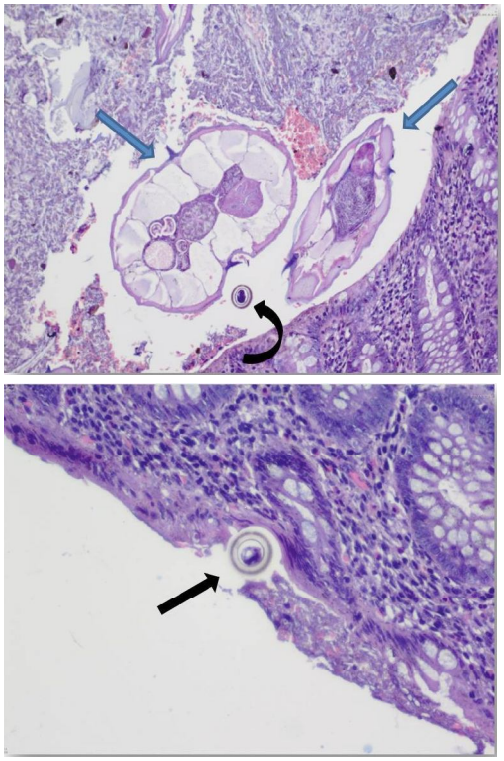

Figure 1,2: Mature form of Enterobius vermicularis (blue arrow) and eggs of Taenia sp.(black arrow) in the appendix lumen (H&Ex100,400)

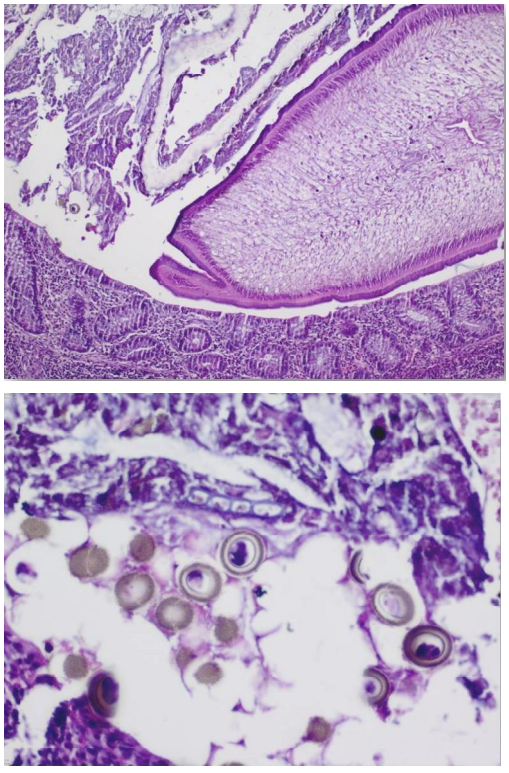

Figure 3,4: Proglottid form and eggs of Taenia sp (H&Ex100,400)

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DISCUSSION

Gastrointestinal infection due to Enterobius vermicularis occurs worldwide and it is the most common detected helminth in human appendix (5). Incidence of Enterobius vermicularis infection in patients with symptoms of appendicitis ranges between 0.2-41.8% (1,4). Although it can be seen in all age groups and all socio economic levels, Enterobius vermicularis infection is more common in children and adolescents. They usually live in the bowel without causing any symptoms. It should be considered in the differential diagnosis in children with symptoms of perianal itching, loss of appetite, insomnia and irritability. Eggs can be detected by applying a piece of cellophane tape to the perianal skin. The parasite wanders inside the bowel including the appendix. The association of Enterobius vermicularis infection and appendicitis was first described in 1899 (5).

Presence of E. vermicularis in appendix may cause symptoms mimicking acute appendicitis (4). It can cause histopathologic changes ranging from lymphoid hyperplasia to acute phlegmonous inflammation which has life-threatening complications like gangrene and peritonitis. Although usually found in the lumen, the parasite may sometimes invade the mucosa. Mucosal invasion is suggested as the possible key factor in triggering the inflammatory process (1).

Taenia spp. infestation of the appendix is uncommon. There have been isolated clinical case reports during the past 30 years. This parasite -also known as tapeworm- is found in the human intestine. After the ingestion of infected meat, the scolex attaches to the intestinal wall and initiates infection. The next stage is the creation of proglottids. Faeces of humans and animals spread the eggs in proglottids to the water, soil and vegetables (5). Taenia spp. infestation is associated with the ingestion of raw or undercooked beef or pork. Clinical symptoms of the infestation are bowel irritation, abdominal pain and diarrhea. In some cases, these are accompanied by fever and eosinophilia.

Taenia solium, which is associated with pork meat, is more common in developing countries whereas Taenia saginata, has worldwide distribution (5,6). The entrance of the parasite into the appendix is yet an unsolved issue. Possibly, after the parasite invades the intestinal wall, it migrates to the surrounding tissues and develops over a long period. When the parasite reaches the appendix, the inflammatory process is initiated. Other known sites for Taenia spp. infection includes vital organs like liver, lungs, brain and eye (5).

Laboratory diagnosis usually requires detection of eggs by microscopy. Distinguishing T.solium from T.saginata based only on egg morphology is impossible. The distinction can be made by the number of the uterine branches of the proglottides. The proglottid of T. saginata has several uterine branches whereas T. solium has relatively few uterine branches.

The concomitant infection of appendix with E. vermicularis and Taenia spp. is a rare entity and has been presented in English literature only once (3). We present this second case which also points that helminths can play a role in the etiology of acute appendicitis.

In the presence of acute appendiceal colic, one should keep the possiblity of parasitic infections in mind, to prevent unnecessary surgery. Also, in acute appendicitis cases with helminths, the patient should be treated with post-operative anti-parasitic medications and the screening of the family members should be done.

CONFLICT OF INTEREST

No conflict of interest was declared by the authors.

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