IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 24, Issue 9 Ser. 2 (September. 2025), PP 46-47
www.iosrjournals.org

A Rare Case Report: Appendicitis Due To Enterobius Vermicularis.

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Abstract
Appendicitis is a common cause of abdominal pain requiring surgical intervention, with bacterial infections being the primary etiology. However, in rare cases, parasitic infestations can contribute to its development. Enterobius vermicularis, commonly known as the pinworm, is one such parasite that can occasionally lead to appendicitis. While Enterobius vermicularis is well-known for causing anal pruritus, its migration to the appendix is an infrequent and under-recognized cause of appendicitis. This case report reviews a 35-year-old male infected with Enterobius vermicularis found in the appendix lumen.

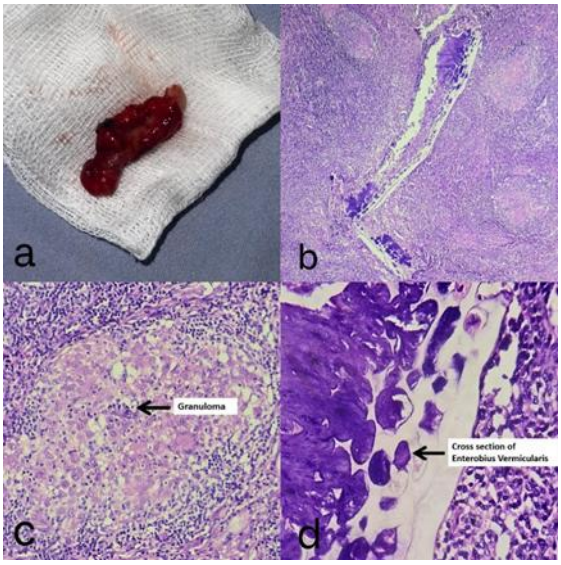
Date of Submission: 02-09-2025 Date of Acceptance: 12-09-2025

I. Introduction:

Enterobius vermicularis infection, a nematode worm of the class Secernentea known as pinworm, is the most common parasitic infection affecting about 200 million people worldwide. It has a pervasive distribution including developed countries but is mainly prevalent in tropical developing countries. Humans get infected by the fecal-oral route through ingesting the contaminated food or water containing the parasite's eggs. Enterobius vermicularis life cycle lasts about one month. Adults are mainly located in ileum and ascending colon but can be seen in the appendix lumen. The females leave the colon at night, pass through the anus, and depose their eggs at the host's perianal skin. The disease manifests commonly as nocturnal anal pruritus but insomnia, irritability, colitis are other symptoms can be found in some cases. Besides these manifestations, E.vermicularis is reported as a rare cause of appendicitis.[1]

II. Case Presentation:

A 35-year-old male, came with complaints of right lower abdominal pain for the past 3 months. Patient was apparently asymptomatic 3 months back after which he developed right lower abdominal pain which was gradual in onset, intermittent in nature, pricking type, aggravated on straining, relieved on its own. No history of fever, vomiting, abdominal distension, constipation, dysuria, trauma. No known co-morbidities with no significant past history. Consumes mixed diet, no loss of appetite, nil significant family history. On examination, patient was conscious, oriented, vitals stable and afebrile. On per-abdomen examination, all quadrants move with respiration, no scars, sinuses, dilated veins. Non-distended, umbilicus inverted. No warmth, mild tenderness over right iliac fossa. Bowel sounds present. Routine blood investigations were normal. USG – abdomen and pelvis done showed features suggestive of inflamed appendix with peri-appendiceal fluid and suspicious perforation at its tip. Patient underwent Open Appendicectomy under spinal anaesthesia. Intra operative findings: No perforation noted, no appendicolith, base healthy.



Appendicectomy biopsy showed Granulomatous Appendicitis with Enterobiasis. Figure (a) shows Intra-op specimen of excised Appendix. Figure (b) is the scanner image of Enterobius vermicularis. Figure (c) shows the granuloma. Figure (d) shows high power image showing Calcified Enterobius vermicularis.

III. Discussion:

Appendicitis, caused by a blockage of the hollow portion of the appendix, is the most common cause of abdominal pain and one of the most common reasons for emergency gastrointestinal surgery. It is commonly caused by fecal stasis, fecoliths and lymphoid hyperplasia. Besides the mentioned causative agents, intestinal parasites have also been reported as other etiologies for appendicitis. Infection of the appendix itself by parasites is rather rare. Nevertheless, some parasitic agents such as Schistosoma species, Taenia species and Ascaris lumbricoides have been reported as other causative agents.[2] Based on the literature, few cases of appendicitis caused by E. vermicularis have been reported in Asia and Canada. On the other side, the role of this parasite in appendicitis is still controversial as usually resected specimens show little or no histological signs of inflammation. When located in the appendix lumen, pinworms might mimic appendicitis features but can rarely be associated with pathologic findings of appendicitis. The problem of determining whether pinworms are causative agents of the appendicitis or incidental findings during appendectomy has been discussed for more than a century.[3] Nevertheless, pinworm infestation is still reported as a causative factor for appendicitis. In absence of laboratory tests specific for appendicitis, a couple of histopathological and radiological analyses allowed us to diagnose appendicitis in our patient, which was caused by E. vermicularis. Regarding the infection route of enterobiasis, the main preventive actions rely mainly on the hygienic measures especially in recurring cases. Furthermore, surgical removal of the appendix by laparotomy or laparoscopy is a conventional intervention performed for acute appendicitis. In case of our patient, he underwent an open appendicectomy. On post-operative day #2, patient improved[3] symptomatically and hence, was discharged.[4]

IV. Conclusion:

Enterobius vermicularis, commonly known as pinworm, is a rare but recognized cause of appendicitis. While its presence in the appendix is often incidental, it can lead to inflammation and symptoms resembling acute appendicitis. Histopathological examination is crucial for confirming its involvement, and surgical removal of the appendix remains the primary treatment [5]This highlights the importance of considering parasitic infections in cases of appendicitis, especially in regions where such infestations are prevalent.

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