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PSEUDOPARASITIC ACUTE APPENDICITIS. REPORT OF A RARE CASE

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Abstract. *The etiology of acute appendicitis is multifactorial with fecal stasis and fecaliths being the most common causes. The etiopathogenetic role of parasitic infection in acute appendicitis is still debatable. Appendiceal parasite and/or its ova may produce intraluminal obstruction resulting in acute appendicitis or lead to a secondary inflammation. Nevertheless, luminal obstruction of the appendix may be caused by numerous materials of different origin many of which may resemble parasitic infestation on pathology analysis thus qualifying as pseudoparasitic inflammation. Therefore, pathological examination of removed appendices must be careful and thorough to confirm real parasitic acute appendicitis or recognize pseudoparasitic inflammation and, if necessary, supplemented with stool examination for parasitic infection.*

Key words: *Acute appendicitis, intestinal parasites*

Introduction

Acute appendicitis (AA) is the most frequent urgent abdominal surgical condition [1]. The etiology of appendiceal obstruction and consequent AA is multifactorial with fecal stasis and fecaliths being the most common causes [2]. This may explain higher incidence of AA in industrialized communities where the low-fiber diet is predominantly consumed [3]. Although the etiopathogenetic role of parasitic infection in AA has been discussed for more than 100 years [4], there is still not enough evidence regarding the relationship between these two entities.

Since the luminal obstruction of the appendix may be caused by numerous materials of different origin many of which may present as (pseudo)parasitic infestation on pathology analysis, the aim of this paper is to present a patient with such condition.

Case Report

A 46-year old man was admitted to our department for severe pain in lower right abdominal quadrant accompanied with fever (38.7°C) and nausea. The symptoms started the previous evening when he experienced sudden nausea and vomited twice without relief. This was followed by mild pain in the epigastrium, which after few hours, migrated to lower right abdomen, was continuous and characterized by slow but progressive increase of severity. On physical examination, rebound tenderness in right iliac region was found, laboratory investigation revealed leukocytosis (16×10^9/L) and elevated serum C-reactive protein level (110mg/L) and there was fever with 1.1°C variation between axillary and rectal body temperature (37.6°C and 38.7°C respectively).

The diagnosis of AA was made and the patient underwent surgery. Intraoperatively, phlegmonous appendicitis and purulent periappendiceal inflammation was found.

Macroscopic diagnosis was confirmed on pathology report which revealed the appendix luminal obstruction with parasite-like or pseudoparasitic structures (Figs. 1 and 2).

Postoperative course was uneventful. Peristalsis followed by normal stool occurred on the 4th postoperative day. After discharge from hospital, (triple) fecal examination for parasitic infection was negative.

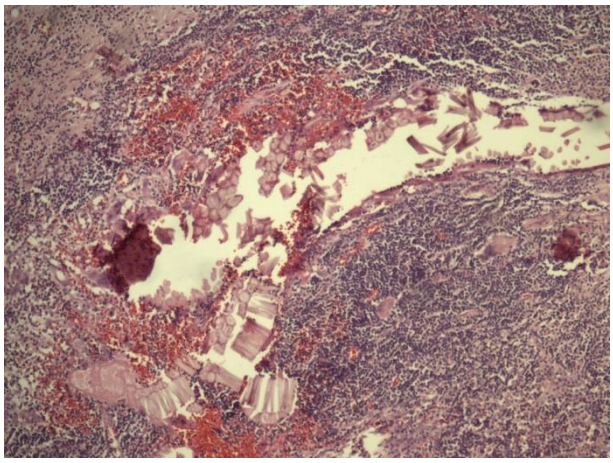

Fig. 1. Pseudoparasitic (parasite-like) structures in appendiceal lumen (HE staining × 200).

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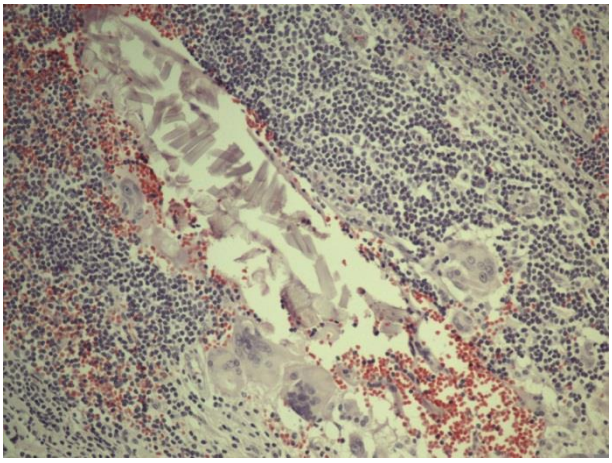

Fig. 2. Acute appendicitis with giant cells in close relation (surrounding) to pseudoparasitic structures (HE staining × 200).

Discussion

It is considered that the lifetime risk of AA is approximately 6-7% with a peak incidence in the second and third life decades [1, 2, 5]. Appendiceal lumen obstruction which precedes acute inflammation is most often caused by fecal stasis and fecaliths. Other causes include lymphoid hyperplasia, vegetable matter, fruit seeds, barium radiographic contrast, intestinal parasites and tumors [2]. Intraluminal pressure increase due to obstruction, leads to vascular congestion, mucosal ischemia and ulcerations. Mucosal barrier is compromised and appendiceal wall is invaded by intraluminal bacteria, which is furthermore fueled by intraluminal bacteria overgrowth due to stasis.

Parasitic infestation is a very rare cause and has a debatable role in the pathogenesis of AA [6]. Increased incidence of intestinal parasitic infection in tropical countries is not associated with more common appediceal inflammation [7]. Appendiceal parasite and/or its ova may produce intraluminal obstruction resulting in AA or lead to a secondary inflammation. Nevertheless, very often the symptoms of appendiceal parasitic infestation may mimic those of AA without really causing it [7]. That is why the majority of parasitic infestations of appendix is not associated with an acute inflammation and is considered to be a component of false AA [4]. The parasite and/or its ova in the appendix may cause recurring appendiceal colic and abdominal discomfort due do luminal obstruction and wall distension without eliciting an acute inflammation which may result in multiple visits to hospital and eventually mislead to the diagnosis of AA and surgery [8]. Also, many of numerous causes of appendiceal intraluminal obstruction may resemble parasitic infestation on microscopic examination thus falsely presenting parasites as a cause of AA, like in the presented case, and qualifying as pseudoparasitic inflammation.

Conclusion

An appendiceal colic caused by parasitic infestation most often cannot be differentiated from lower right abdominal pain typical for AA and often leads to surgery. Nevertheless, the majority of patients with appendiceal parasites and such symptoms do not experience an acute inflammation of the appendix. Pathological examination of removed appendices must be careful and thorough to confirm real parasitic AA or recognize pseudoparasitic inflammation and, if necessary, supplemented with stool examination for parasitic infection.

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