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Case Report

Schistosomiasis Eggs Causing Acute Appendicitis

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Abstract

One of the most common abdominal emergencies is appendicitis. A 25-year-old Asian female patient came to the emergency room with severe right lower abdominal pain. The patient has no known history of any diseases. In this case report, the authors are representing one of the rare causes of acute appendicitis.

Key words: Appendicitis; CT; Schistosomiasis.

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Introduction

One of the most common abdominal emergencies is appendicitis. It may occur at any age, but the most common age group is 10-20 years old. The most known symptoms are abdominal pain that might be associated with vomiting and high body temperature. This pain mainly radiated on the right iliac fossa. In addition, appendicitis can be investigated by laboratory tests such as Urine analysis, full blood count-neutrophil and C reactive protein.

However, Computed tomography scanning (CT) in lead to diagnosis appendicitis with sensitivity of 94% and specificity 95% [1]. The Acute Appendicitis causes are many as, faecolith and Luminal obstruction all these assisted with inflammation [2]. In this case report, the authors are representing one of the rare causes of acute appendicitis.

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Case report

A 25-year-old Asian female patient came to the emergency room with severe right lower abdominal pain. The patient has no known history of any diseases. Clinical examination showed a severe pain in the right fossa with high body temperature. A complete blood count test and pregnancy test were ordered. The labs in the normal level and the pregnancy test were negative. Because of the patient's situation and the described pain, the patient was sent to the radiology department to have an abdominal CT with IV contest to rule out acute appendicitis.

A CT scan showed a thickening of the appendiceal wall surrounded mural calcification (Figure 1). The final impression acute perforated appendicitis with mural calcification extending up to the cecum suggesting schistosomiasis appendicitis. The patient went under surgical treatment and the histopathology unit confirmed the initial diagnosis (Figure 2).

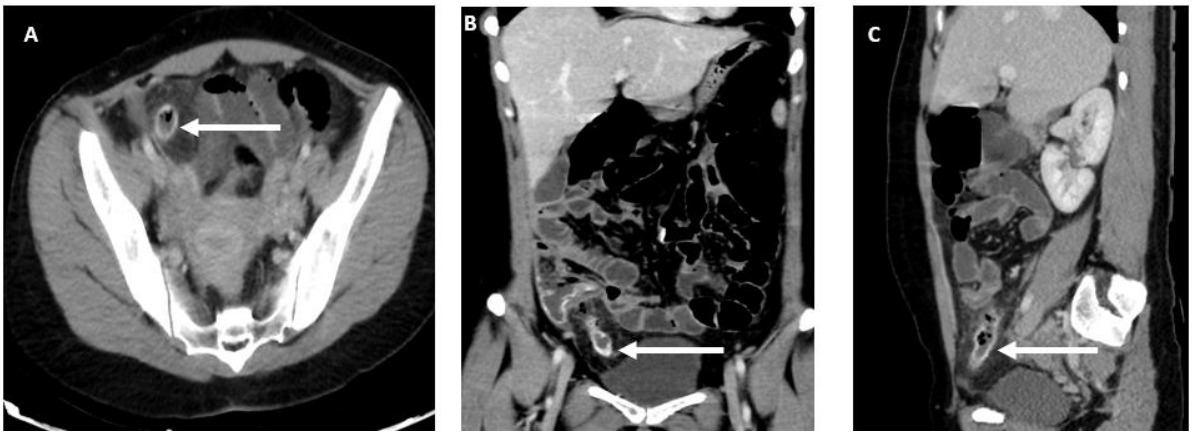

Figure 1: CT abdomen and pelvis in portovenous phase. (A) an axial view (B) coronal view and (C) Sagittal view. The appendix is dilated, fluid-filled with marked mural calcification.

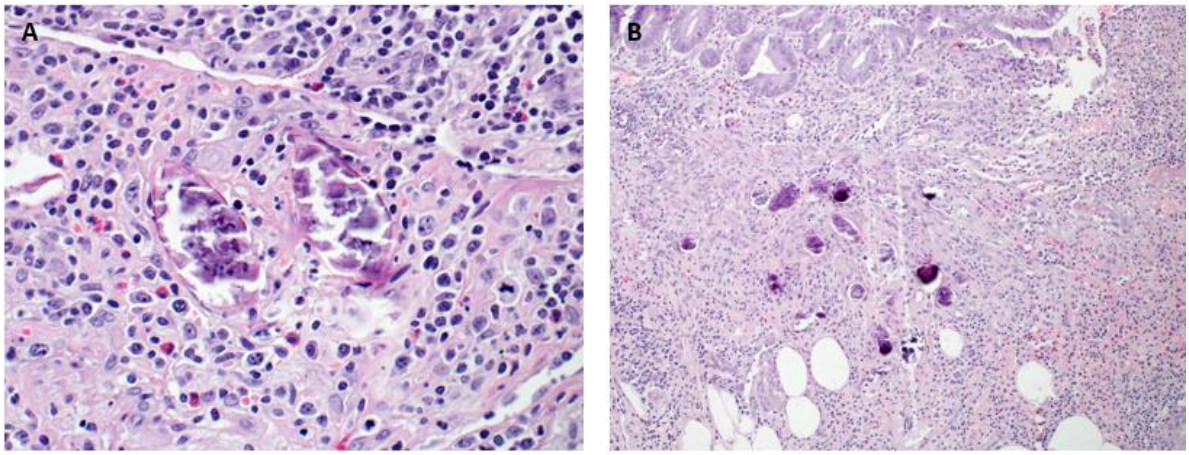

Figure 2: Micrograph The histological sections show transmural deposition of calcified schistosomula eggs in a background of acute suppurative appendicitis. Calcified schistosome eggs deposited in the submucosa.

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Discussion

Schistosomiasis is a parasitic disease, and it is considered one of the most widespread parasites. According to the World Health Organization 500 to 600 million people are at risk for schistosomiasis and 200 million are infected [3]. There are many kinds of schistosomiasis species and the most important are their types, *S. haematobium, S. mansoni,* and *S. japonicum*. These three schistosomiasis species can deposit their eggs into the appendix [4].

On the other hand, the causes of appendicitis in most cases are an obstruction lumen and the bacteria form in the appendix causing acute inflammation. Appendicitis mostly affects ages between 5 to 45. In addition, the incidence of having appendicitis is 233/ per 100,000 people. In the United States around 300,000 visit the hospitals complaining of appendicitis [5]. However, Schistosomiasis of the appendix was first mentioned in 1909 by Turner [6]. In general, schistosomiasis is common in developing countries. However, Acute appendicitis caused by schistosomiasis is very rare even in endemic areas [7]. According to a study report done in 2014 patients with schistosomal appendicitis have been reported to be 0.2 %-6.3%. In addition. CT scan helped to diagnose these types of cases by obvious clue that is the calcification around the appendix [8]. Furthermore, CT scan can recognize the signs of S. japonicum infection [9]. CT scans play a great role for diagnosis appendicitis with 95% accuracy. The signs of appendicitis in CT included enlarged (more than 6 mm) appendix with thickening in the appendix wall (more than 2mm). About 25% of the patient's presence with appendicolith. In addition of appendiceal wall enhancement and peri-appendiceal fat stranding [5]. In this case report the patient came with usual acute appendicitis symptoms. CT scan was able to recognize the mural calcification in the appendix and determine the schistosomal appendicitis noninvasively.

Conclusion

Schistosomal appendicitis is mostly reported in developing countries. Nevertheless, it can be found in other areas with many reasons such as traveling to those areas. However, schistosomal appendicitis symptoms are almost the same symptoms as appendicitis. In addition, it has similar appearance in CT scan with addition sign, mural calcification. It is recommended to be aware of mural calcification when it seen surrounding up to the cecum because that was the most important sign to the radiologist to identify the schistosomal appendicitis in this case report. CT scan is a useful tool to diagnose schistosomal appendicitis.

Disclosure

No potential conflict of interest relevant to this article was reported. The manuscript has been seen and approved by all authors.

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