Schistosomiasis as a rare cause of recurrent acute appendicitis – A case report

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A B S T R A C T

INTRODUCTION: We are presenting a case of schistosomiasis in a 41 year old lady who presented with right iliac fossa pain for 3 years. The pain worsened and the frequency increased in the last 3 months prior to referral. The ultrasound was unremarkable. Her bowel habits were normal and there was no vomiting. There was no blood in the stool or in the urine.

PRESENTATION OF CASE: The abdomen was soft except on deep palpation. There was slight tenderness in the right lower quadrant. A repeat ultrasound was unremarkable. The full blood count was within the normal range. A diagnosis of recurrent acute appendicitis was made and an interval appendicectomy was performed.

DISCUSSION: Histopathology results revealed schistosomiasis of the appendix. There was no acute inflammation but there was fibrous obliteration of the distal lumen of the appendix and reactive lymphoid hyperplasia.

CONCLUSION: This is the first case in a country with relatively clean drinking water. There are no irrigation schemes but there are seasonal rivers and streams. The patient admits to swimming in these streams during childhood. Clinical features of schistosomiasis were not elicited.

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1. Introduction

Schistosomiasis is a common disease worldwide. In 1998, over 200 million people were affected.1 By 2003 the population at risk had risen to 779 million and those affected were 207 million.2 It is endemic in developing countries and 80% of the victims are in Sub-Saharan Africa. The main species that affects humans are Schistosoma mansoni, Schistosoma haematobium, Schistosoma japonicum, Schistosoma mekongi and Schistosoma intercalatum.3 Schistosomiasis can affect any organ in the body but it is rare in appendix.4

The prevalence of the disease depends on water bodies, faecal contamination of drinking water and the presence of snail host. Irrigation schemes create new habitats for the snail host,2 Botswana has a good water supply with no large scale irrigation schemes in the country. There are seasonal rivers and streams where people in the rural areas swim and fish. Overall the prevalence of Schistosomiasis is very low in Botswana.

2. Presentation of case

A 41 year old female presented with a history of right iliac fossa pain for 3 years. The pain became more severe and more frequent in the last 3 months prior to referral. She was seen by a gynaecologist who did an ultrasound and sent her for a barium enema. The ultrasound was unremarkable and the barium enema revealed colitis of the caecum and she was treated with prednisolone and sulfasalazine. There was no improvement and hence her referral. Besides the right iliac fossa pain, her bowel habits were normal and there was no vomiting. There was no evidence of blood in the stool or in the urine.

On examination the abdomen was soft, but there was slight tenderness in the right lower quadrant on deep palpation. The rest of the abdominal examination was normal. The repeat ultrasound examination was unremarkable. The full blood count was within normal range. A diagnosis of recurrent acute appendicitis was made and an interval appendicectomy was performed. The appendix and the other viscera were macroscopically normal.

Histopathology revealed schistosomiasis of the appendix (Fig. 1). There was no evidence of acute inflammation but there was fibrous and obliteration of the distal lumen of the appendix. Reactive lymphoid hyperplasia was also noted. There was no evidence of granulomatous inflammation.

The patient made an unremarkable post-operative recovery. Antibodies to Bilharzia were detected in the serum but no schistosomal ova were found in urine and stool. She was given a single dose of Praziquantel 40 mg/kg.

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3. Discussion

In 1906, Burfield\(^6\) described the first case of appendicitis associated with schistosomiasis. Schistosomal appendicitis is a rare disease. Muzingo et al.\(^5\) in Tanzania reported a rare case of acute appendicitis due to schistosomal infestation. In a retrospective study conducted by Gali et al.\(^7\) in Nigeria, they reported 27 (2.3%) out of over 1000 cases in which the histology demonstrated the presence of schistosomal eggs in the appendices. Schistosoma mansoni constituted 56%, S. haematobium 26% and 19% had both S. mansoni and S. haematobium. Chan\(^8\) in Hong Kong had 0.15% cases of appendicitis attributed to schistosomiasis.

Tarada\(^9\) proposed that the ischaemic changes were due to egg emboli leading to reduction of mucosal immunity and thus bacterial infection. Nandipati\(^10\) and Badmos\(^1\) believed that the disease manifestation was due to chronic schistosomal granulomatous inflammation, fibrosis, narrowing of the lumen and swelling of the bowel wall. This led to secondary obstruction and acute appendicitis. Our patient had recurrent symptoms and the histology revealed that the distal half of the appendiceal lumen was obliterated and there was fibrosis. A diagnosis of recurrent appendicitis was considered. The concept of “Neuroimmune” appendicitis would also fit our patient although we did not do the stains for Substance P (SP), Vasoactive Intestinal Peptide (VIP) and Growth Associated Protein 43 (GAP-43)\(^12\) to confirm that.

Schistosomal appendicitis is a histopathological diagnosis. This was the finding by Al Kraidy et al.\(^13\) in Saudi Arabia. Similarly our patient did not exhibit specific symptoms pertaining to the presence of Schistosomiasis. She had clinical manifestation of appendicitis. The diagnosis of schistosomal appendicitis was reached after histology results revealed the presence of schistosomal ova in the appendix. Stool and urine examined after appendicectomy did not demonstrate any eggs.

4. Conclusion

This is probably the first case in a country with relatively clean drinking water. There are no irrigation schemes but there are seasonal rivers and streams. The patient admits swimming in these streams in childhood. Clinical features of schistosomiasis were not elicited. This case shows us that appendiceal schistosomiasis is a histological diagnosis. Swimming in seasonal rivers and streams may be a factor in the transmission of appendiceal schistosomiasis.

Conflict of interest statement

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Consent

Obtained.

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