

Bilharzial granuloma of the duodenum

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Abstract

Introduction

An unusual location for bilharzial granuloma is reported.

Case report

The lesions were found during endoscopy in the duodenum of a young female presented with abdominal pain and lymphadenopathy. Diminutive polypoid lesions measuring about 3-4 mm were seen in the first and second portions of the duodenum and were biopsied endoscopically. Histological findings were typical of bilharzial granuloma which is rarely found in the duodenum.

Conclusion

In the presented patient, the gastrointestinal clinical symptoms persisted for several years. Despite the patient's history indicative of a possibility of a *Schistosoma* infection, laboratory tests failed to detect parasite eggs and the lesion was found in the duodenal mucosa which is an unexpected site.

Introduction

Schistosomiasis is a chronic parasitic disease caused by a trematode blood fluke of the genus *Schistosoma* that belongs to the Schistosomatidae family¹. It is a multifactorial disease that includes environmental, behavioral, parasitic, vector and host factors. It continues to be a significant cause of morbidity and mortality². Hepatic schistosomiasis, or schistosomal hepatopathy, is the most common form of the chronic disease and usually results from heavy *S. mansoni* infection³. Intestinal schistosomiasis represents another form of schistosomal affection. Among spectrum of intestinal lesions, polyps are the commonest⁴. All areas of the small and large intestine can be involved but the large intestine shows the most severe lesions due to depositions of higher density of eggs, especially in the rectum, sigmoid and descending colon, than in the small intestine⁵. Here we report an unusual location for bilharzial granuloma in the duodenum.

Case report

A 29 year old female was presented to our hospital by abdominal pain and lymphadenopathy. The pain was intermittent without any radiations. At physical examination, the patient was alert, afebrile, pale, not

dehydrated, and not jaundiced. Multiple enlarged cervical, axillary and inguinal lymph nodes were detected, other systems were essentially normal. The biochemical profile was unremarkable, except for anaemia (Hb 9.4g/dl). Stool and urine examination were normal with no detected bilharzial ova. Ultrasound examination was normal. Lymph node biopsy revealed reactive follicular hyperplasia. Upper endoscopy revealed diminutive polypoid lesions measuring about 3-4 mm involving the first and second portions of the duodenum which were biopsied endoscopically (Figure 1 & 2). Histological examination revealed duodenal granuloma with bilharzial ova in the center (Figure 3 & 4). A diagnosis was made of bilharzial granuloma occurring in an unexpected localization.

Discussion

An infection with *Schistosoma* was first described in ancient Egypt in approximately 1550 B.C.⁶. World Health Organization (WHO) considers schistosomiasis as the second only to malaria in socioeconomic importance worldwide and the third more frequent parasitic disease in public health importance⁷. Currently, the largest number of cases of schistosomiasis occurs in Egypt, Yemen, and Algeria⁸. The largest and latest epidemiological survey in Egypt mentioned prevalence of *S. haematobium* in Upper Egypt (where it is endemic) to be around 7.8% while prevalence of *S. mansoni* in Lower Egypt (where it is endemic) to be around 36.4%⁹. Intestinal schistosomiasis is essentially due to *S. mansoni* infection¹⁰ and it has been reported as well in some *S. haematobium* cases¹¹. The intermediate host for *Schistosoma* is a fresh-water snail that is infected in its water environment by miracydia (transformed eggs). In the snail's respiratory cavity the

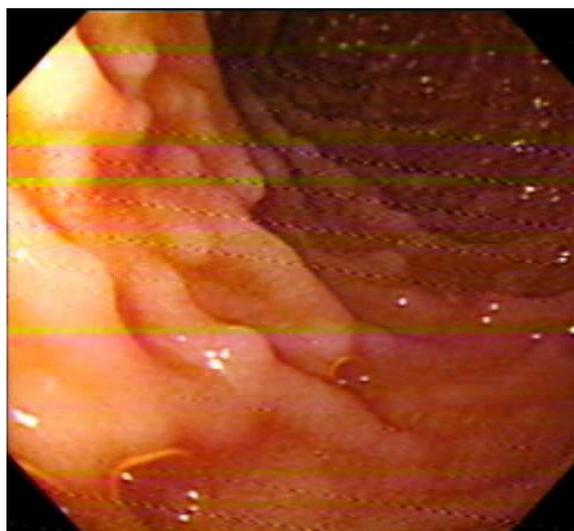


Figure 1: Multiple diminutive sessile polypoid lesions in the second part of the duodenum.

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miracydia are transformed into another form, that of cercaria, which penetrate human skin and access the peripheral blood vessels and the lungs to finally colonize the portal or pelvic veins where they mature into adult male and female parasites. The latter produce hundreds of eggs daily. *S. mansoni* lays its eggs in the capillary vessels of the branches of the inferior mesenteric vein; some of these eggs may penetrate the intestinal wall and enter the colon and then they may be excreted with stool¹². After the first infection, an acute syndrome (the so-called Kattayama fever), with high temperature, chills, eosinophilia, hepatosplenomegaly, generalized lymphadenopathy and gastrointestinal symptoms develops. The intensity of intestinal infection varies. The patients complain of abdominal pain, diarrhea and bloody stools. The lesions chiefly involve the rectum and the left part of the colon. Patients with chronic schistosomiasis manifest mucosal ulceration and luminal strictures that result from the accumulation of granulomas, fibrosis and bilharzial polyps¹³. The inflammatory reaction within the intestinal wall depends upon the immune status of the patient, the number of *Schistosoma* eggs and the duration of their staying within the host's body. Initially, the mucosa is edematous, shows profuse inflammatory infiltration and submucosal hemorrhages. Epithelioid cell granulomas that develop around the eggs constitute the predominant lesion that may calcify; alternately granulomas may encapsulate dead adult parasites that contain miracydia. *Schistosoma* eggs are 100- 180µm in length and approximately 70µm in width. The capsule of an egg is light-brown in color¹⁴. The histopathological pattern of enteritis triggered by *S.mansoni* should be differentiated from other diseases in the course of which epithelioid cell granulomas develop, mostly from Crohn's disease and tuberculosis, as well as *Yersinia* infections.

Conclusion

In the presented patient, the gastrointestinal clinical symptoms persisted for several years. Despite the patient's

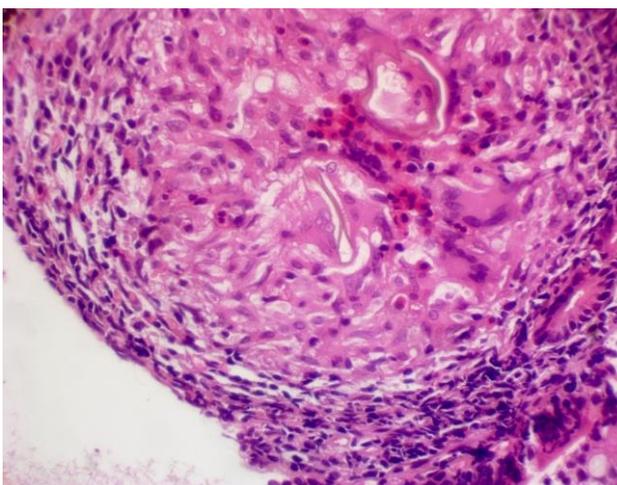


Figure 4: Duodenal granuloma with bilharzial ova in the center, H&E staining 400x.

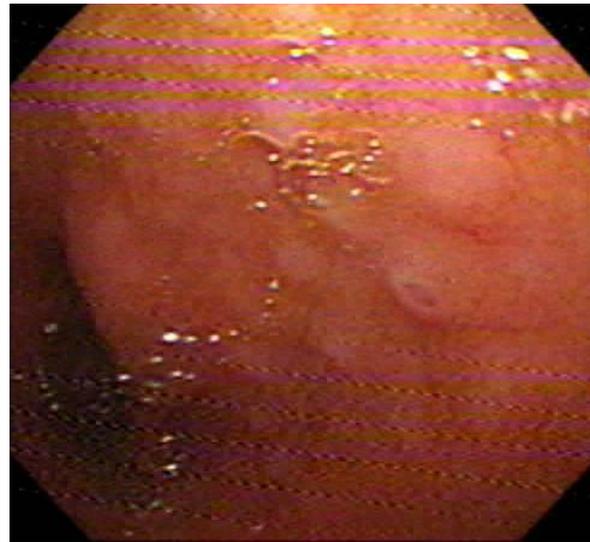


Figure 2: Multiple diminutive sessile polypoid lesions in the first part of the duodenum.

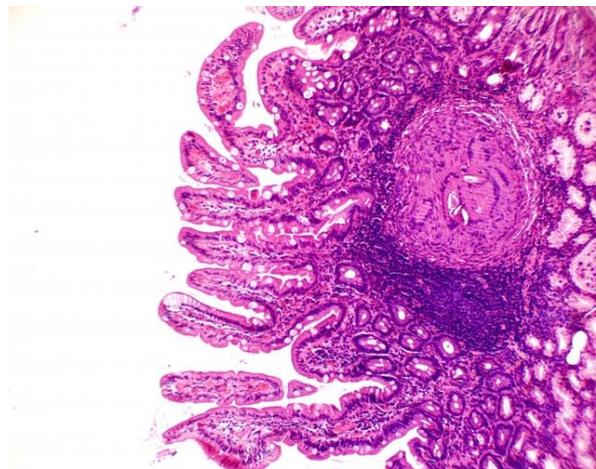


Figure 3: Mucosal granuloma in the dudenum, H&E staining 100x.

history indicative of a possibility of a *Schistosoma* infection, laboratory tests failed to detect parasite eggs and the lesion was found in the duodenal mucosa which is an unexpected site.

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