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A Case Of Intestinal Schistosomiasis Mimicking Inflammatory Bowel Disease : The Key Role Of Histopathology

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Abstract: Intestinal schistosomiasis caused by Schistosoma mansoni is endemic in Madagascar and may mimic inflammatory bowel disease due to nonspecific clinical and endoscopic features. We report the case of an 18-year-old woman presenting with chronic rectal bleeding. Colonoscopy revealed erosive and aphthous lesions extending from the rectum to the left colonic flexure, initially suggestive of inflammatory bowel disease. Histopathological examination of colonic and rectal biopsies demonstrated a dense chronic inflammatory infiltrate and Schistosoma mansoni eggs with a characteristic lateral spine, without histological features consistent with inflammatory bowel disease.

The present case highlights the importance of considering the epidemiological context and performing histopathological examination in the diagnosis of chronic colitis in endemic areas.

Keywords : Colitis; Histopathology; Intestinal schistosomiasis; Rectal bleeding; Schistosoma mansoni.

Introduction

Intestinal schistosomiasis is a parasitic disease caused by trematodes of the genus *Schistosoma*, primarily *Schistosoma mansoni* in cases of intestinal involvement. It represents a major public health problem, affecting approximately 200 to 250 million people worldwide and ranking second among human parasitic diseases after malaria [1]. According to the World Health Organization (WHO), nearly 700 million people live in endemic areas and are at risk of infection [2].

More than 90% of schistosomiasis cases are reported in sub-Saharan Africa [3]. In Madagascar, the prevalence is heterogeneous across regions, ranging from 10% to 60% in certain rural communities, particularly near rivers, rice paddies, and marshy areas, where frequent contact with infested freshwater facilitates transmission [4].

Clinically and endoscopically, intestinal schistosomiasis may mimic inflammatory bowel disease (IBD), posing a significant diagnostic challenge, especially in young patients. In such cases, histopathological examination plays a central role in establishing the etiological diagnosis. We report an illustrative case highlighting the crucial contribution of histopathology in this context.

Case presentation

An 18-year-old woman with no significant past medical or surgical history was admitted to the Hepatogastroenterology Department for rectal bleeding that had been ongoing for several weeks. She reported no fever, severe abdominal pain, or marked deterioration in her general condition.

A colonoscopy was performed and revealed multiple superficial erosions, some with an aphthous appearance, separated by areas of macroscopically normal mucosa, extending from the rectum to the left colonic flexure. These findings initially suggested inflammatory bowel disease (IBD), particularly colonic Crohn's disease.

Systematic rectal and colonic biopsies were obtained. The specimens were fixed in formalin, embedded in paraffin, and stained with hematoxylin and eosin for histopathological analysis. Microscopic examination revealed colonic mucosa with a dense chronic inflammatory infiltrate, predominantly lymphoplasmacytic, involving the lamina propria. In one of the biopsy fragments, several *Schistosoma* eggs were identified, exhibiting a lateral spine characteristic of *Schistosoma mansoni*, located within the mucosa and submucosa, without associated calcification.

No glandular architectural abnormalities, crypt distortion, cryptitis, nor crypt abscesses—features typically suggestive of inflammatory bowel disease—were observed. A diagnosis of intestinal schistosomiasis was therefore established.

Discussion

Intestinal schistosomiasis caused by *Schistosoma mansoni* remains a common parasitic disease in tropical regions, particularly in sub-Saharan Africa and Madagascar, where socio-environmental conditions favor transmission [5]. Its clinical presentation is polymorphic, predominantly characterized by rectal bleeding, chronic diarrhea, abdominal pain, and occasionally a dysenteric syndrome, which may mimic inflammatory bowel disease (IBD) [6].

In young patients living in endemic areas, schistosomiasis should always be considered in the presence of chronic gastrointestinal symptoms. Several studies have highlighted the clinical and endoscopic similarities between schistosomal colitis and IBD, exposing patients to the risk of misdiagnosis when the epidemiological context is not adequately taken into account [7].

Endoscopically, lesions observed in intestinal schistosomiasis are variable and nonspecific. They range from normal-appearing mucosa to congestive edema with petechiae, superficial erosions or ulcerations, fibrotic plaques, inflammatory pseudopolyps, and even colonic strictures in advanced cases [8]. This marked heterogeneity explains the difficulty in differentiating it from ulcerative colitis or Crohn's disease.

Histopathological examination is the cornerstone of diagnosis. Histologically, the characteristic finding is the presence of *Schistosoma* eggs within the mucosa or submucosa, often surrounded by a granulomatous inflammatory reaction rich in eosinophils, lymphocytes, and macrophages. Depending on their stage of development, the eggs may be viable or calcified, the latter indicating past infection. Chronic inflammation may lead to parietal fibrosis, which can be responsible for late complications [9].

In our case, the identification of eggs with a lateral spine typical of *S. mansoni*, in the absence of histological criteria suggestive of IBD (architectural distortion and crypt abnormalities), allowed us to rule out this diagnosis and avoid inappropriate management. It is important to emphasize that the infection may be focal and that the absence of eggs in limited biopsy samples does not exclude schistosomiasis, thereby justifying the performance of multiple and deep biopsies in suspicious areas [9].

The consequences of diagnostic confusion can be serious. Initiating immunosuppressive therapy (corticosteroids or biologic agents) in a patient with undiagnosed schistosomiasis may exacerbate the parasitic infection and delay the administration of specific treatment with praziquantel. Several cases reported in the literature illustrate these diagnostic and therapeutic errors [10].

In Madagascar, schistosomiasis is endemic and well documented, with hyperendemic foci of *S. mansoni*, particularly in certain rural areas [11]. This epidemiological context necessitates increased vigilance and the systematic inclusion of schistosomiasis in the differential diagnosis of rectal bleeding and chronic colitis.

Diagnosis therefore relies on a combination of epidemiological and clinical data, parasitological stool examinations (which may be negative in cases of low parasite burden), and, most importantly, histological confirmation [12].

Conclusion

Intestinal schistosomiasis remains a common parasitic disease in endemic areas such as Madagascar. It may mimic chronic inflammatory bowel disease owing to misleading clinical and endoscopic features.

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This case underscores the fundamental role of histopathological examination in establishing the etiological diagnosis of chronic colitis and highlights the importance of considering endemic parasitic infections before concluding a diagnosis of IBD, in order to prevent potentially serious diagnostic and therapeutic errors.

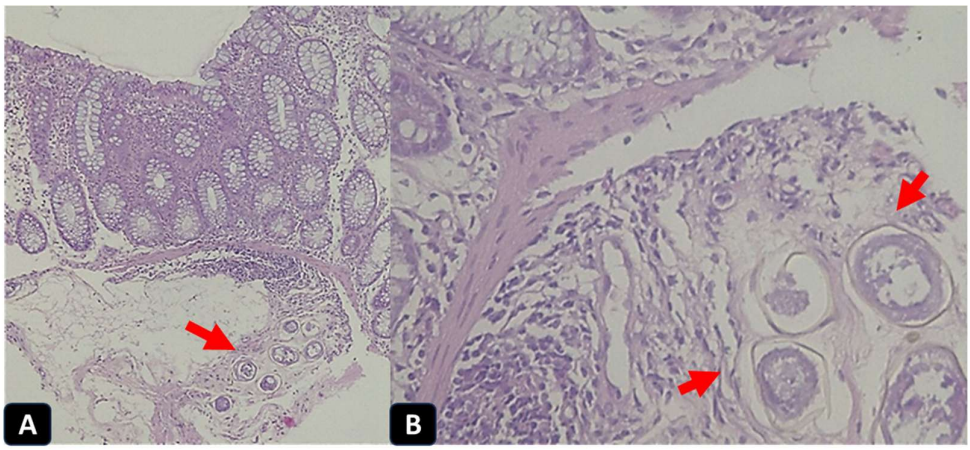

Figure 1. Intestinal schistosomiasis. A, Colonic biopsy showing *Schistosoma* eggs in the submucosa (red arrow) HE×200 ; **B,** HEx400
Source : Pathology Department CHU Andrainjato Fianarantsoa, Madagascar.

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