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Bilharzial Appendicitis: About A Case, at the District Hospital of Commune IV of Bamako

Dembélé S. B[1*], Samake M[1], Dianessy Y[1], Guiré A[1], Amaguiré Saye[2], Diarra S[2], Sy O[6], Sidibé B. Y[3], Maïga A[3], Karembe B[1], Coulibaly O[4], Konaté M[3], Diarra A. B[5], Dembélé, B. T[3]

[1]General Surgery Department of the CIV District Hospital in Bamako, Mali
[2]Gyneco-Obstetrics Department of the CIV Bamako District Hospital, Mali
[3]General Surgery Department of CHU Gabriel TOURE, Mali
[4]Pediatric Surgery Department of CHU Gabriel TOURE, Mali
[5]Anotomy-Pathology Department of the G Point University Hospital, Mali
[6]Research Professor in Epidemiology, Mali

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***Corresponding author:** Dembele S.B.
Hospital Practitioner, Researcher in General Surgery, General Surgery Department of the CIV District Hospital in Bamako, Mali

Abstract **Case Report**

Bilharzial appendicitis is a very rare condition. We report the case of a young 18-year-old adolescent admitted to the department for pain in the right iliac fossa in a febrile context, evolving for 8 days with a history of terminal hematuria. After an abdominal ultrasound, the diagnosis of acute appendicitis was made. Treatment consisted of an appendectomy. The pathological examination revealed eggs of Schistosoma hematobium at the level of the appendicular wall. An antiparasitic treatment based on praziquantel was started. The postoperative course was simple.

Keywords: Bilharzial appendicitis, terminal hematuria, pathological examination, antiparasitic treatment.

INTRODUCTION

Acute appendicitis is an inflammation of the ileocecal appendix; according to several studies carried out across certain health structures in the country [1-3], it constitutes the leading cause of abdominal surgical emergencies in Mali. Although Mali is in a bilharzial endemic zone with the presence of schistosomiasis in almost all regions, the prevalence of schistosomiasis varies depending on the eco-climatic zones of the country [4], the discovery of bilhazial appendicitis remains an exceptional event. We therefore present this clinical case with the aim of emphasizing the performance of a systematic anatomopathological examination after each appendectomy but also highlighting a schistosomiasis origin of acute appendicitis.

OBSERVATION

This is an 18-year-old male patient, student, resident in Djicoroni-para, a district bordering the Niger River, with a history of terminal hematuria, referred from a community health center where he received treatment with antibiotics, antimalarials, and antipyretics; for pain in the right iliac fossa lasting 8 days. This pain was associated with early post-prandial food vomiting and a notion of fever. On admission the temperature was 38.20C with good general condition. Physical examination found guarding of the right iliac fossa on palpation with positive Blumberg and Rowsing signs. An ultrasound examination carried out revealed a globular, swollen, edematous appendix, measuring 63×13 mm, incompressible with the positive Murphy ultrasound. A leukocytosis of 12,000/mm3 and a positive C-reactive protein of 12 mg/l were found on biological examination.

The diagnosis of acute appendicitis was made. An appendectomy with burial of the appendicular stump was performed. The appendix was macroscopically phlegmonous and in pelvic position. The patient was put on antibiotic and analgesic treatment. The immediate postoperative course was simple.

The anatomopathological examination of the surgical specimen was requested, the histology focused on sections of the appendicular wall which presented a diffuse inflammatory infiltrant throughout the wall (Figure 1) with polymorphonuclear neutrophils and eosinophils (Figure 2) forming associated abscesses to schistosome eggs (Figure 3), the mucosa was erosive, the glands were regular.

Faced with this histological result, the diagnosis of bilharzial appendicitis was made. The patient was put on an antiparasitic treatment based on praziquantel, 1800 mg in a single dose.

After one month, the patient's clinical examination was normal. The abdominal pain and hematuria disappeared one month after the surgical procedure.

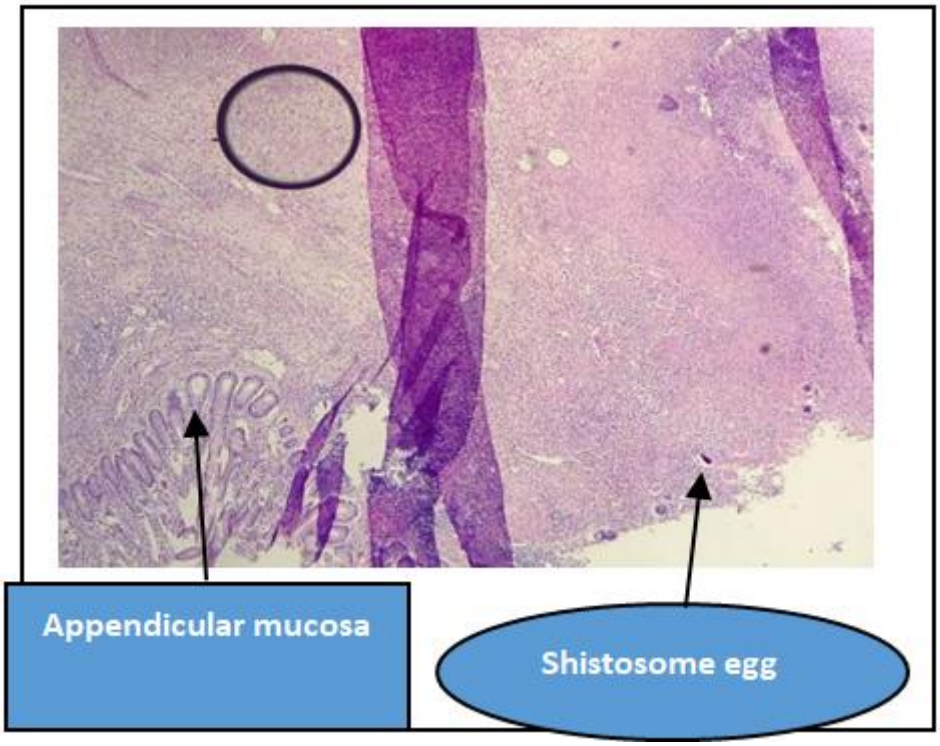

Figure 1: Appendicular wall at low cooling (4/0.10) Pan parietal inflammation with schistosome eggs

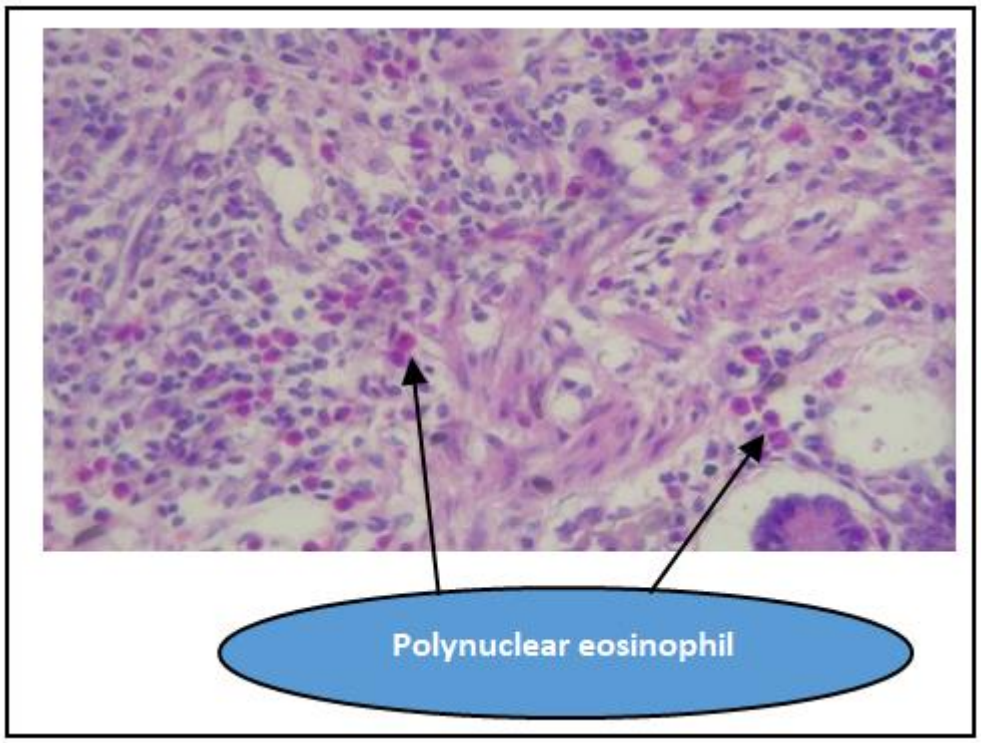

Figure 2: Appendicular wall with numerous polynuclear cells Eosinophils, lymphocytes and plasma cells

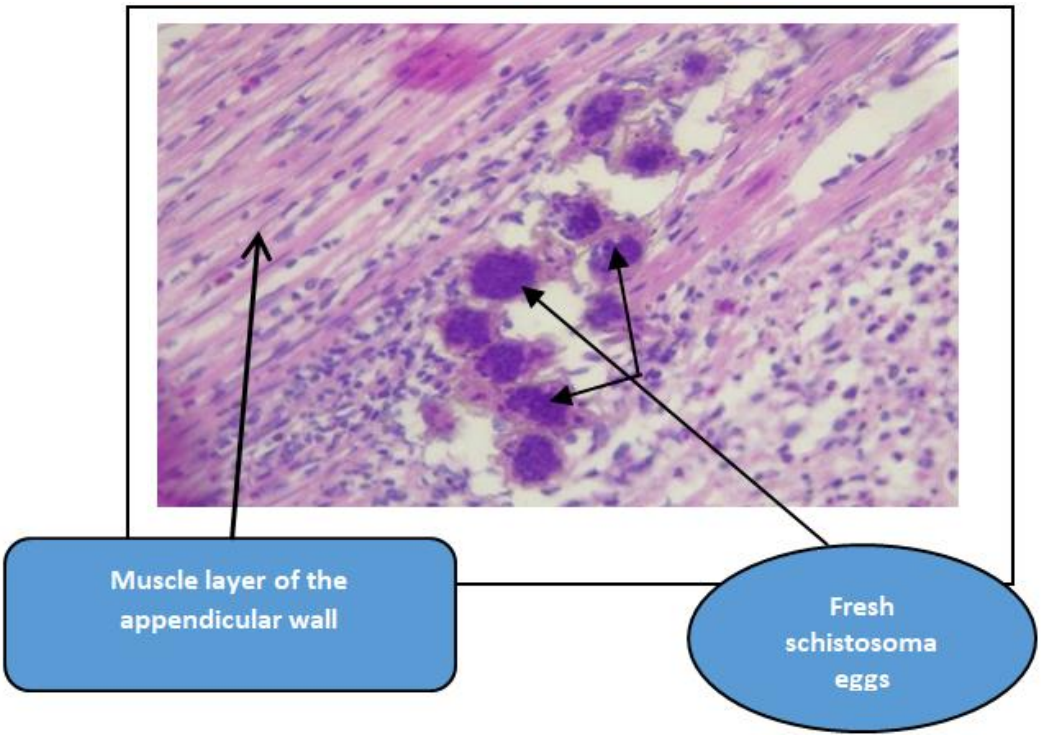

Figure 3: Muscular layer of the appendicular wall with schistosome eggs

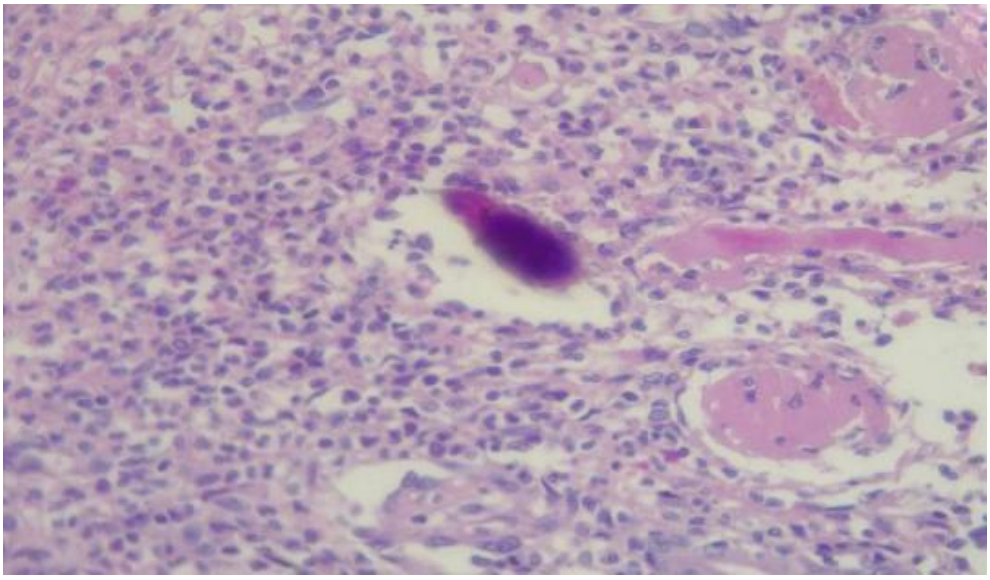

Figure 4: Terminally inserted spur = schistosoma hematobium eggs

DISCUSSION

Acute appendicitis represents the most frequent first surgical emergency in the general surgery department of the district hospital of commune IV of Bamako with a frequency of 44.7% [5], this trend is confirmed by several recent studies. carried out in the various health structures in the country [1, 2]. According to Lattre J. F., the high frequency of acute appendicitis compared to other emergencies is linked to dietary factors, intestinal parasitosis, and contiguity infections [6]. Schistosomiasis is a parasitic disease caused by flatworms called schistosomes. It constitutes a public health issue of global importance, because it is the second global endemic after malaria [4], according to WHO estimates, the Schistosomiasis affects nearly 240 million people worldwide. More than 700 million people live in endemic areas. The infection is in tropical and subtropical areas, in poor communities without clean water or adequate sanitation [7]. It is transmitted to humans through contact with contaminated water sources and is linked to poor personal hygiene and environmental sanitation. This explains the predominance of this disease in endemic areas of developing countries [8]. In Mali, schistosomiasis is endemic and present in almost all regions with varying prevalence depending on the eco-climatic zones [4]. In the district of Bamako, it is more frequent in areas

bordering the Niger River such as the Djicoroni district. -by, place of residence of our patient.

The etiologies of appendicitis are diverse and varied [9]. Schistosomiasis infection should be considered as a possible cause of appendicitis not only in endemic areas but also in developed countries [10]. It was first described by Burfield in 1906 [11]. Its incidence is not known [12], so after only 8 months of activity we identified 1 case of bilharzial appendicitis out of 28 histological studies carried out, i.e. 3.6% of cases. Other cases have been reported in other country, thus in Senegal, in the study of Thiam [9], after analysis of 3208 appendectomies over 10 years, he found 2 cases [9], in Mozambique on a series of 145 cases of appendicitis in Beira 13.1% or 9 cases were bilharzial appendicitis [10]. In Japan, Tadashi Terada found 1 case of schistosmic appendicitis out of 311 cases of appendicitis, or 0.32% [12].

The deposition of parasite eggs in tissues, leading to an inflammatory reaction, granulomatosis [13] and the involvement of schistosome eggs in acute appendicitis is a source of controversy. Some authors believe that the passage of schistosome eggs through the appendicular mucosa would lead to ulcerations and inflammatory reactions. In addition, bilharzal granulomas can compress the vessels causing ischemic and necrotic lesions. Other authors think that schistosomiasis infestation would rather lead to obstruction of the appendicular lumen, thus facilitating bacterial infection. For these authors, it is therefore a bacterial appendicitis caused by a parasitic infestation [9].

One of the particularities of this condition is the absence of anatomo-clinical correlation[14] and the polymorphism of the signs [2]. Also appendicitis is not characteristic of any particular parasite, even if some are localized in the cecum like pinworms [15].

The positive diagnosis is essentially clinical [2] in our patient, we found a notion of fever, pain in the iliac fossa associated with digestive signs. The physical examination allowed us to demonstrate defense of the right iliac fossa on palpation with positive Blumberg and Rowsing signs. Biology found hyperleukocytosis with an ultrasound confirming the diagnostic suspicion. Also, the patient's residence as well as his history of terminal hematuria were elements of diagnostic guidance.

The diagnosis of the appendix is histological, allowing us to describe the anatomopathological state of the appendicitis [2], in our case, this examination allowed us to confirm the bilharzial infestation of the appendix. The presence of Schistosome eggs requires specific antiparasitic treatment after appendectomy, with praziquantel at a single dose of 60 mg/Kg; since appendicular schistosomiasis is often associated with other visceral locations (vesical, intestinal, hepatosplenic, etc.) [9]. If left untreated, mechanical occlusive or neoplastic complications may occur. Only a histopathological examination can confirm bilharzial involvement of the appendix, hence the importance of a systematic anatomo-pathological examination of any appendectomy part [9].

CONCLUSION

This is probably the first case of bilharzal appendicitis in our hospital in such a short time of surgical activity. Apart from the history of hematuria and the place of residence in a riverside district which can be considered as factors of transmission and orientation of shistomiasis; our patient had classic clinical signs of acute appendicitis. This confirms the hypothesis of the absence of anatomo-clinical correlation of this pathology. The definitive diagnosis was confirmed by histology, which allowed us to complete the surgical treatment with the administration of praziquantel, essential for the treatment of bilharzial appendicitis. In the absence of this specific antiparasitic treatment, the disease can progress towards an extension of the disease to other viscera, associated or not with complications. Thus, histopathological examination must be systematic after any appendectomy.

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