



# Appendicular bilharzioma: An unusual cause of acute intestinal obstruction in childhood (a case report at Charles de Gaulle Paediatric Teaching Hospital of Ouagadougou)

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## ABSTRACT

The authors report the case of a 12-year-old boy admitted to the surgical emergency department of Charles de Gaulle Paediatric Teaching Hospital of Ouagadougou for acute abdominal pain. A strangulation of the terminal ileum by a tumour-like appendix wound around the bowel loop was seen during operation. The histological examination of the removed appendix disclosed eggs of *Schistosoma haematobium* and concluded to bilharzian appendicitis. A course of praziquantel treatment was instituted, and the patient underwent an event-free recovery. Such cases report are infrequent, even in areas where bilharzia-related diseases are endemic. It is important to recognise them and to treat them in an aetiological manner so as to prevent any potential complications. The diagnosis is always an operator and histological curiosity. Appendectomy and treatment with a course of praziquantel seem quite suitable for this situation.

**Key words:** Appendix, bilharzioma, intestinal obstruction, schistosomiasis

## INTRODUCTION

Acute bowel obstruction of parasitic causes are rare, the main one being ascariasis.<sup>[1]</sup> Bowel obstruction by bilharzian infestation is quite exceptional.

We report an unusual case of acute bowel strangulation caused by an appendicular bilharzioma in a child and discuss the importance of appendectomy, histological

examination of the removed appendix and specific treatment of bilharziosis in such case.

## CASE REPORT

A 12-year-old boy was admitted to the paediatric surgical emergency department in October 2011 for fever, acute abdominal pain, vomiting, failure to pass stool and gases and pyuria. The antecedents did not reveal anything specifically relevant. There was no history of haematuria. His general condition was good.

The abdomen was distended, elastic and painful with no bowel sound. The rectal examination was very painful with a bulging Douglas peritoneal recess. There was no abdominal scar, and all the hernial areas were free.

The diagnosis of acute bowel obstruction was considered and confirmed by the presence of dilated loops of bowel with air-fluid levels on the plain abdominal films [Figure 1]. Blood count revealed a total white cell count of 8700 and eosinophilia (6%).

The operation was undertaken on the day of admission. The abdomen was entered by a transverse subumbilical incision. Exploration disclosed a purplish-blue terminal ileum strangulated by the appendix which was wound around it [Figure 2]. A tumour-like mass of about 3 cm

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in diameter was seen on the appendiceal apex without any specific aspect of the vessels. We discovered a small amount of rosy peritoneal effusion and a mild enlargement of the mesenteric lymph nodes. The liver, the spleen and the retroperitoneal organs were normal.

The appendiceal loop was easily dismantled, and the ileum freed and soaked in the tepid physiologic salt solution. The bowel colour returned to normal. The appendix was removed [Figure 3].

The post-operative course was event free, and the child was discharged from the hospital 5 days after surgery.

Urine analysis disclosed eggs of *Schistosoma haematobium* and microscopic haematuria. On histological examination of the appendix *S. haematobium* eggs were seen surrounded by dense fibrosis sprinkled with giant cells, histiocytes and lymphocytes. There were no malignant characteristics.

We administrated two oral doses of 1200 mg of praziquantel. The patient did well at the last medical check-up in December 2011. Abdominal sonogram, blood count and urine analysis were normal.

## DISCUSSION

*S. haematobium* is endemic in Burkina Faso. It has a well-known urogenital tropism and terminal haematuria is one of its most frequent clinical signs. Its intestinal localisation is rarer<sup>[1]</sup> and bowel obstruction is quite exceptional. Symptoms in such case remain non-specific and the obstruction may be promoted by a variety of mechanisms as quoted in several reports.<sup>[2-4]</sup> One of the mechanisms, may be, as in our case the enlargement of the apex of the appendix by a bilharzioma that causes the enmeshment of the appendix around the terminal ileum. The tumour-like apex of the appendix may even lock the knot and promote adhesions.

As in our case, pre-operative etiological diagnosis is virtually impossible. Appendiceal localization of bilharzia infestation is uniformly diagnosed by histological examination of the removed appendix.<sup>[3,5-8]</sup> This is also the key step in defining the parasitic species in question. *S. haematobium* was found in our case as in those reported by Sanou and Francesco.<sup>[4,6]</sup>

The usual clinical expression of schistosomal infestation of the appendix is right lower quadrant pain, but this infestation counts for just a small amount of such pain.<sup>[6,9]</sup> Our case is the first one reported in our



Figure 1: Air fluid levels on plain abdominal film



Figure 2: Terminal ileum strangulated by the appendix



Figure 3: The removed appendix

institution. However bilharzia infestation has been blamed for 2.4–2.9% lower quadrant pain in Nigeria and in Ghana.<sup>[5,7,10]</sup> As all removed appendices are not examined these reported rates could be below the actual rates. Moreover, changes resulting from increasing use

of water for irrigation and electricity generation have contributed to the spread of schistosomal infestation in some areas.

Bilharzia ulcerations or tumour like proliferations have been described in the bladder, in the intestine and even on the skin. Failure to recognise the real cause of such situation may lead to the risk of on-going disease and complications.<sup>[3]</sup> The diagnosis must be considered not only when the appendix is tumour-like (it is likely that histological examination will always be obtained in such cases), but even when the appendix seems more or less normal, in the presence of haematuria or chronic pyuria, especially in the endemic area.

When appendicular bilharzioma is diagnosed, it seems wise to associate the treatment of the schistosomiasis to an appendectomy. Praziquantel is an excellent solution in this case. It is easy to use and very efficient.

### CONCLUSION

Schistosomiasis is associated with a variety of complications. The appendiceal localisation of schistosomal infestation is rare, and strangulation of the terminal ileum by such appendix is quite exceptional. It is only by keeping this in mind particularly when urinary symptoms are present that one can hope to make the exact diagnosis of such lesion. Appendectomy

and treatment with a course of praziquantel are quite suitable for this situation.

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### Conflicts of interest

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