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Case Report

Life-Threatening Anaemia and Full-Thickness Rectal Prolapse Revealing Chronic Intestinal Schistosomiasis in a Child

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Abstract: Lower gastrointestinal bleeding and rectal prolapse in children have a broad differential diagnosis influenced by age, nutritional status, comorbidities, and geographical exposure. In endemic regions, intestinal schistosomiasis should be considered among infectious causes of chronic gastrointestinal blood loss and inflammatory colorectal disease. Rectal prolapse secondary to schistosomiasis is rare, and operative intervention is infrequently required. A 5-year-old girl presented with a six-month history of intermittent rectal bleeding and full-thickness rectal prolapse, accompanied by progressive weakness and abdominal distension. Severe microcytic hypochromic anaemia was identified, with a haemoglobin level of 2.7 g/dL. After blood transfusion and clinical stabilisation, open abdominal sacral rectopexy was performed because of persistent, ulcerated prolapse with ongoing bleeding and failure of conservative management. Intraoperative findings included thickening of the sigmoid colon, whitish serosal patches, enlarged mesenteric lymph nodes, and hepatomegaly. Stool ova testing was requested but unavailable. Histopathological examination of biopsied tissue revealed active Schistosoma eggs within granulomas, confirming the diagnosis. This case illustrates an advanced presentation of intestinal schistosomiasis in a young child, complicated by life-threatening anaemia and full-thickness rectal prolapse requiring surgical correction. In endemic settings, children with chronic rectal bleeding, anaemia, abdominal symptoms, or prolapse should undergo targeted evaluation for schistosomiasis. When stool microscopy is unavailable or inconclusive, histopathology can provide definitive confirmation. Earlier recognition, guided by exposure history, appropriate ova testing, and haemoglobin assessment, may reduce the risk of progression to severe complications.

Keywords: Intestinal Schistosomiasis, Schistosoma Mansoni, Rectal Prolapse, Paediatric Surgery, Severe Anaemia, Lower Gastrointestinal Bleeding, Case Report.

INTRODUCTION

Lower gastrointestinal bleeding and rectal prolapse in paediatric patients pose diagnostic challenges because their causes vary by age, nutritional status, comorbidities, and geographical context [1]. In children, rectal prolapse is commonly associated with constipation, malnutrition, infectious or inflammatory gastrointestinal disease, cystic fibrosis, morphological factors, and neurological conditions [2-4]. Most paediatric cases are initially managed conservatively, with surgery generally reserved for recurrent, complicated, or refractory prolapse [5].

Schistosomiasis remains an important parasitic disease in tropical and subtropical regions, particularly in populations with limited access to safe water and sanitation. World Health Organisation guidance emphasises prevalence-based preventive chemotherapy, water, sanitation and hygiene interventions, and snail control as core components of control and elimination strategies [6, 7].

Intestinal schistosomiasis results from deposition of parasite eggs in host tissues, triggering immune-mediated granulomatous inflammation and progressive organ injury. Clinical manifestations may include abdominal pain, diarrhoea, blood in the stool, anaemia, hepatosplenic involvement, polyposis, and strictures [8-10]. Although intestinal schistosomiasis is common in endemic areas, full-thickness rectal prolapse

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requiring surgical correction is uncommon, particularly in young children [11].

This report describes a histologically confirmed case of chronic intestinal schistosomiasis in a 5-year-old child presenting with life-threatening anaemia and persistent full-thickness rectal prolapse. The case highlights diagnostic limitations, the importance of considering alternative causes of severe anaemia, and the need for focused evaluation of symptomatic children in endemic areas.

CASE PRESENTATION

A 5-year-old girl weighing 16 kg presented with a six-month history of intermittent rectal bleeding and rectal prolapse, together with a two-month history of progressive weakness and abdominal distension. Examination revealed a congested, dark-red, focally ulcerated, full-thickness rectal prolapse (Figure 1).

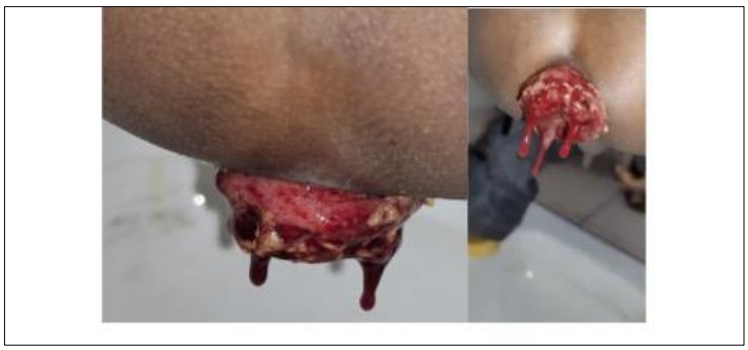

Figure 1: Bleeding and ulcerated full-thickness rectal prolapse at presentation

Laboratory investigations revealed severe microcytic hypochromic anaemia, with a haemoglobin concentration of 2.7 g/dL. The white blood cell count was 9.83 × 10^9/L, and the blood group was a positive. Given the severity of the anaemia, other potential contributors, including nutritional iron deficiency, malaria, hookworm infection, and haemoglobinopathy, were considered but excluded based on the available clinical assessment and investigations. Stool ova analysis for schistosomiasis was requested but not performed because of laboratory constraints.

Abdominal radiography demonstrated diffuse colonic mottling with moderate dilatation and gas extending to the rectum, suggesting underlying colonic pathology without providing a specific diagnosis. Following stabilisation with a 300 mL blood transfusion, open abdominal sacral rectopexy was performed because the prolapse was persistent, bleeding, ulcerated, clinically severe, and refractory to conservative management.

Intraoperative findings included a diffusely thickened sigmoid colon, redundant small bowel with widespread whitish serosal patches (Figure 2), markedly enlarged mesenteric lymph nodes, and hepatomegaly. These findings suggested chronic granulomatous inflammation, although histological confirmation was required. Biopsies were obtained.

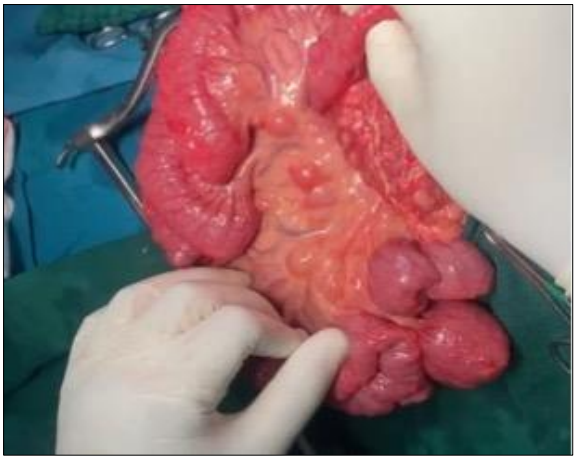

Figure 2: Intraoperative view showing redundant small bowel with widespread whitish serosal patches and multiple enlarged mesenteric lymph nodes

Histopathological examination identified multiple active Schistosoma eggs within granulomas, confirming intestinal schistosomiasis. The patient subsequently received praziquantel according to standard treatment guidance [12]. The postoperative course was favourable, with clinical improvement after surgery, transfusion, and antiparasitic therapy.

Long-term follow-up should include assessment for recurrent prolapse, correction of anaemia, nutritional recovery, and evaluation for potential hepatosplenic involvement. These measures are warranted given the severity of the initial presentation and the potential for chronic schistosomiasis to cause persistent inflammatory, haematological, nutritional, or hepatosplenic complications.

DISCUSSION

This case is notable for the concurrence of life-threatening anaemia, chronic rectal bleeding, full-thickness rectal prolapse, and histologically confirmed intestinal schistosomiasis in a young child. A haemoglobin level of 2.7 g/dL should prompt comprehensive diagnostic evaluation rather than attribution to a single cause without supporting investigations.

In this patient, schistosomiasis was a plausible major contributor to chronic gastrointestinal blood loss and inflammatory colorectal disease. However, because stool microscopy and a full evaluation for all alternative causes of severe anaemia were unavailable or not fully documented, schistosomiasis should not be regarded as the only possible cause of the anaemia. A conservative interpretation is that intestinal schistosomiasis was definitively confirmed and was likely an important contributor to chronic bleeding and inflammation.

The mechanism linking schistosomiasis to rectal prolapse should also be interpreted cautiously. Granulomatous inflammation of the rectosigmoid region may have contributed to mucosal congestion, bleeding, bowel-wall thickening, altered defaecation dynamics, and weakening of local support. However, histological examination did not demonstrate direct involvement of pelvic support tissues. The association between schistosomiasis and prolapse in this case is therefore probable rather than definitive.

The diagnostic process underscores the importance of basic laboratory capacity in endemic regions [13-15]. Stool or urine ova examination is recommended as a primary diagnostic method, with sample selection based on the suspected Schistosoma species. In light infections, egg shedding may be intermittent, and repeated sampling can increase diagnostic sensitivity. When ova testing is unavailable, delayed, or negative despite strong clinical suspicion, biopsy may provide diagnostic confirmation, as demonstrated here.

The decision to perform rectopexy should be guided by paediatric management principles. Rectal prolapse in childhood is usually managed initially with non-operative measures, including reduction of the prolapse and treatment of associated conditions. Procedural or surgical interventions are generally reserved for recurrent, persistent, complicated, or refractory cases [16]. In this patient, the prolonged duration, ulceration, bleeding, severe anaemia, and full-thickness nature of the prolapse justified operative management.

From a public health perspective, this case supports targeted screening rather than indiscriminate investigation. In endemic communities, children presenting with chronic rectal bleeding, anaemia, abdominal symptoms, growth concerns, or prolapse should be evaluated for schistosomiasis. World Health Organisation control strategies rely on prevalence thresholds, preventive chemotherapy, water and sanitation interventions, and snail control [17, 18].

Although chronic schistosomiasis has been associated with impaired growth in children, this patient's height, nutritional status, growth trajectory, and duration or intensity of infection were not documented. Consequently, no quantitative estimate of growth impairment can be provided. Future reports should include anthropometric measurements and nutritional data to better characterise the systemic burden of disease.

CONCLUSION

This case is clinically significant because it brings together three features rarely documented in a young child: profound life-threatening anaemia, persistent full-thickness rectal prolapse requiring operative correction, and histological confirmation of active intestinal schistosomiasis. It also highlights a common challenge in resource-limited endemic settings, where routine ova testing may be unavailable and definitive diagnosis may rely on tissue examination. By linking a surgical presentation with a tropical infectious disease while acknowledging the limits of causal inference, this report offers a practical lesson for clinicians evaluating children with chronic rectal bleeding, anaemia, or prolapse in endemic areas.

Ethics Statement and Consent: Written informed consent for publication of the clinical details and images was obtained from the patient's parent or legal guardian. A copy of the consent form is available for the Editor's review upon request.

Conflicts of Interest: The authors declare no conflicts of interest.

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