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Cutaneous-Urinary Schistosomiasis in a Child: A Case Report at the Dermatology Hospital of Bamako

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Abstract **Case Report**

Schistosomiasis is a parasitic disease of human origin caused by flatworms. This condition affects millions of people in developing countries where it is endemic. In 2017, the WHO classified schistosomiasis as a neglected tropical disease (NTD), deserving particular attention due to its potential complications, including infertility. Several initiatives have been undertaken to eradicate this condition, among which regular administration of praziquantel (PZQ), an anthelminthic medication, to school-age children (and other high-risk groups) is the cornerstone of schistosomiasis control. Although the efficacy of PZQ against infections of a single schistosome species is well known, its efficacy against mixed-species infections is less understood, as are the reinfection patterns after treatment. We report a case in a child in Bamako. Patient was a 9-year-old student who presented with pruritic solid lesions on the abdomen that had been continuously evolving, gradually increasing in number and size. The child used water from the marigot for group amusements. Since schistosomes can survive for decades in the host's bloodstream, they are clearly capable of evading host immune responses, and their ability depends on the properties of the tegument surface. This hypothesis is plausible in our child due to his previous baths in the marigot. This highlights the need for proper management of stagnant water in endemic countries. This observation serves as a warning to clinicians that any hematuria warrants a systematic dermatological examination to search for skin lesions.

Keywords: Schistosomiasis, Cutaneous-urinary, Child, Bamako.

INTRODUCTION

Schistosomiasis is a parasitic disease of human origin caused by flatworms. This condition affects millions of people in developing countries where it is endemic. In 2017, the WHO classified schistosomiasis as a neglected tropical disease (NTD), deserving particular attention due to its potential complications, including infertility. Several initiatives have been undertaken to eradicate this condition, among which regular administration of praziquantel (PZQ), an anthelminthic medication, to school-age children (and other high-risk groups) is the cornerstone of schistosomiasis control. Although the efficacy of PZQ against infections of a single schistosome species is well known, its efficacy against mixed-species infections is less understood, as are the reinfection patterns after treatment. The preferred mode of contamination is through freshwater. The elective locations are urogenital and digestive. Cutaneous involvement is rare and sometimes underdiagnosed due to lesion polymorphism. The association of cutaneous and urinary involvement simultaneously is rarely described in the literature. We report a case in a child in Bamako.

OBSERVATION

The patient was a 9-year-old student who presented with pruritic solid lesions on the abdomen that had been continuously evolving, gradually increasing in number and size. The child used water from the marigot for group amusements. Additionally, the mother reported a history of terminal hematuria. Symptomatic treatment with topical herbal therapy had been used. No particular medical history was reported.

On examination, hyperpigmented papules, sometimes isolated and sometimes grouped in medallions and plaques, giving the appearance of

splashes, were noted on the peri-umbilical region and the left flank. (Face 1 and 2)

Face 1: Lichenoid papules splashing onto the peri-umbilical region

Face 2: Erythematous papules on the left flank

Abdominal ultrasound revealed circumferential thickening of the bladder wall with turbid content consistent with schistosomal cystitis, and parasitological examination of the urine revealed Schistosoma haematobium. The diagnosis of cutaneous-urinary schistosomiasis in a child was made. The patient was treated with 1200mg of praziquantel and topical crotamiton. After seven days, there was a favorable outcome with disappearance of hematuria and significant regression of skin lesions.

Argument

This case highlights the rare occurrence of concurrent skin and urinary involvement in the same individual, which is uncommon in this disease. Urinary involvement is more common in children due to the mode of contamination in our environment (stagnant water), which is a favored playing area for children in the absence of parental supervision. This could also be explained by the morphology of Schistosoma itself. The syncytial cytoplasmic layer, called the tegument, covering the entire surface of adult schistosomes, constitutes a major interface between the parasite and its host. Since schistosomes can survive for decades in the

host's bloodstream, they are clearly capable of evading host immune responses, and their ability depends on the properties of the tegument surface. This hypothesis is plausible in our child due to his previous baths in the marigot. This highlights the need for proper management of stagnant water in endemic countries. This observation serves as a warning to clinicians that any hematuria warrants a systematic dermatological examination to search for skin lesions. Cutaneous involvement appears to be less described, possibly due to the focus on urinary symptoms alone. Schistosomiasis, although classified as an NTD, deserves to be well understood due to our endemicity and its complications, especially the urinary form leading to infertility.

CONCLUSION

Schistosomiasis remains endemic in our communities, and its well-known transmission should be effectively prevented through proper education of children and parents to interrupt the transmission cycle. Any occurrence of hematuria should raise concern, prompting a systematic dermatological examination.

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