Journal of Epidemiological Society of Nigeria Vol. 6 No.1 June. 2023 127-130

Male Genital Schistosomiasis in a Twelve Year Old Boy from Northeastern Nigeria: A Case Report

Aminu M C D[1,2], Ibrahim R[3,4*], Nasiru R[1,2], Isaac P[2].
[1]Pathology Department, Modibbo Adama University, Yola, Adamawa State
[2]Pathology Department, Modibbo Adama University Teaching Hospital, Yola, Adamawa State
[3]Community Medicine Department, Gombe State University, Gombe
[4]Community Medicine Department, Federal Teaching Hospital, Gombe
***Corresponding author:** Ibrahim Rabiu, Community Medicine Department, Gombe State University. Email: ibrahimrabiu69@gsu.edu.ng

Abstract

Urogenital schistosomiasis is a chronic human disease caused by *schistosoma haematobium* that often manifests as haematuria. The main complications of *S. haematobium* infestation are chronic cystitis with squamous cell metaplasia and subsequent development of squamous cell carcinoma. Spinal cord damage resulting in lower extremity paralysis has also been reported as a complication of urogenital schistosomiasis. Other atypical schistosomiasis diseases have been described, such as involvement of the appendix, ovaries, prostate, testicles, and cervix. The article presents a case of male genital schistosomiasis in a 12-year-old boy who had skin swelling of the left scrotal hemisphere for a week. Scrotal involvement in male genital schistosomiasis with various symptoms should be part of the differential diagnosis in any scrotal pathology

Keyword: Genital, Male, Schistosomiasis, Ova

Introduction

An estimated 200 million people worldwide suffer from schistosomiasis, with the majority (165 million) living in sub-Saharan Africa.[1] Approximately 112 million infections in this region are caused by *Schistosoma haematobium*.[2] Nigeria, estimated to have the highest burden of schistosomiasis globally, is among the countries that have introduced Mass Drug Administration (MDA), although not on a large scale and not carried out regularly.[3]

Adult *S. haematobium* worms are usually found in the pelvic veins, [4] but in some cases, they are found in unusual locations where they then deposit their eggs in adjacent tissues such as genital tissues.[5] Although genital schistosomiasis primarily affects women, there have been reports of schistosomiasis affecting male genitals such as testicles and spermatic cord.[6] Male genital schistosomiasis (MGS) is the presence of *Schistosoma* eggs in the male reproductive system.

Male genital schistosomiasis is the most underreported complication of urogenital schistosomiasis (UGS) caused by the chronic inflammatory process induced by *Schistosoma haematobium* eggs and associated pathologies in the reproductive tract of affected males.

The epidemiology, diagnosis, treatment and prevention of MGS are not well documented, although the first case of MGS was described by Madden more than a century ago.[7] However, as many interactions between MGS and human immunodeficiency virus (HIV) are known,

there is renewed public health interest in MGS in sub-Saharan Africa (SSA).

In MGS, the seminal vesicles and prostate are common sites for deposition of *S. haematobium* ova.[6] Disease presentation include funiculitis, prostatitis, epididymitis, orchitis and urethritis among others.[8] Lesions in males associated with schistosomiasis can impair spermatogenesis and thus lead to infertility.[8] The article describes the experiences of the members of Female Genital Schistosomiasis Society of Nigeria in collaboration with expertise from Modibbo Adama University Teaching Hospital, Yola of a12-year-boy with MGS.

Case report

A 12-year-old boy with no formal education from a farming community in Adamawa State presented to the Outpatient Clinic at Mobiddo Adama University Hospital at Yola with a 1-week history of hemi-scrotal skin swelling, initially a pinpoint size, but progressively increased in size. He had terminal haematuria one month prior to presentation. There was no related history of scrotal pain. He had no history of fever, weight loss, or night sweats. There was no history of trauma to the scrotum.

Physical examination showed that the boy had no jaundice or pallor. Essentially other systems were normal. Genital examination revealed a raised oval shaped swelling at the upper margin of left hemi-scrotal skin with multiple popular lesions. The swelling was limited to the skin, not attached to underlying structure. Surgical exploration was done, and initial impression of genital wart was made. The patient was placed on an oral antibiotic. Initial investigations showed lymphocytosis, eosinophilia, erythrocyte sedimentation rate of 33mm/hour and negative urine test. The skin swelling was excised and sent for histological examination. Macroscopy showed a skin covered grey, white tissue measuring 2.5x1.5x1cm. Histological section demonstrated granuloma which composed of epithelioid cells, eosinophils, lymphocytes and plasma cells with an area of necrosis. Some *Schistosoma* ova were seen as shown in the figure below. The patient was treated with praziquantel at a dose of 40mg/kg. The skin lesion got better on subsequent follow-up.

Discussion

The report describes a 12-year-old boy with a week history of hemi-scrotal skin swelling who had haematuria a month prior to presentation, never had praziquantel under MDA and from schistosomiasis-endemic area. Histological examination of excised swelling confirmed diagnosis of male genital schistosomiasis. He was given a single dose of praziquantel(40mg/kg).

Male genital schistosomiasis is a rare differential diagnosis of scrotal pathology because of non-specific nature of the symptoms and the low awareness of the disease among healthcare professionals. Genital schistosomiasis cases, are hardly suspected and are usually discovered accidentally during laboratory investigation as in the case being reported.[9]

Presentation of hemi-scrotal skin swelling in this patient would not have been enough clinically to raise suspicion for schistosomiasis. The absence of pain in this patient makes diagnosis of other scrotal pathogens more difficult. Findings of multiple popular lesions raised the suspicion for genital wart, which is not uncommon in this region. Tuberculous scrotal skin lesion commonly tends to be misdiagnosed as a tumor as well, and tuberculosis is very common in our setting. In the endemic area for schistosomiasis, the common mode of presentation of urogenital schistosomiasis is haematuria;

scrotal skin swelling is very exceptional, and therefore clinically it was not part of differential diagnosis. Though there was past history of haematuria, the laboratory findings of no blood or ova in urine posed a challenge for diagnosis of schistosomiasis in this patient. In this patient, the Pathogenesis of schistosomal infection involving the scrotum is likely to be through the larva migration from the lungs to the veins, where the adult schistosomes lodge in the genitourinary venous plexus, and the excretion of the eggs causes chronic granulomatous inflammation since there was history of haematuria.[10] Involvement of scrotal skin in this patient without any of the intra-scrotal pathologies and the young age of the patient explained the uniqueness of this form of MGS that have not been reported in literature. From this case report, community-based studies need to be conducted to describe the true magnitude of the MGS in northeastern Nigeria where schistosomiasis is endemic. Deliberate programmes for health workers and outreach programmes for the communities must be designed and implemented in order to raise awareness on genital schistosomiasis.

Conclusion

Scrotal form of MGS is most often misdiagnosed therefore clinicians should have high index of suspicion when dealing with scrotal swellings especially in schistosomiasis-endemic area. This will help to avoid misdiagnosis and unnecessary interventions.

Reference

1. Colley DG, Bustinduy AL, Secor WE, King CH. Human schistosomiasis. Lancet 2014; 383: 2253–2264

2. Touré S, Zhang Y, Bosqué-Oliva E, Ky C, Ouedraogo A, Koukounari A, et al. Two-year impact of single praziquantel treatment on infection in the national control programme on schistosomiasis in Burkina Faso. Bull World Health Organ. 2008 Oct;86(10):780-7, A. doi: 10.2471/blt.07.048694. PMID: 18949215; PMCID: PMC2649514.

3. Health Organization Guideline on control and elimination of human schistosomiasis. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO.

4. Gryseels B, Polman K, Clerinx, Kestens L. Human Schistosomiasis. The Lancet. 2006; 368:1039- 1126.

5. Poggensee G, Sahebali S, Van Marck E, Swai B, Krantz I, Feldmeier H. Diagnosis of genital cervical schistosomiasis: Comparison of Cytological, Histopathological and Parasitological examination. Am J Trop Med Hyg. 2001; 65 (3):233-236.

6. Leutscher P, Ramarokoto C, Reimert C, Feldmeier H, Esterre P, Vennervald BJ. Community based survey of male schistosomiasis in Madagascar.The Lancet. 2000; 355 (9198):118.

7. Madden FC. Two rare manifestations of bilharziasis. Lancet 1911; 178: 754–755.

8. Perignon A, Pelicot M, Consigny HP. Genital schistosomiasis in Travelers. J Travel Med. 2007; 14(3), 197-199.

9. Sarma HN, Jeebun N, Agnihotri. Incidental schistosomiasis in a dermoid cyst of the ovary: A case Report. Internet J Pathol. 2007; 7

(1):1-4.

10. Neto N M, Grando J P, Moreira H A. Testicular schistosomiasis mimicking tumour. International Brazilian Journal of Urology 2004; 30(6):502–503.

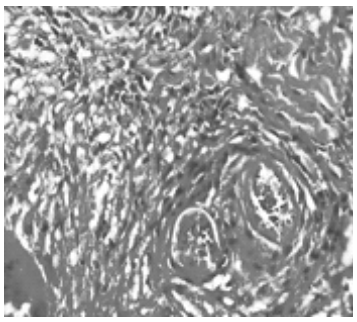

Figure 1: H&Ex100 showing granuloma which composed of epithelioid cells, eosinophils, lymphocytes, and plasma cells with area of necrosis and some *Schistosoma* ova seen