

**CASE REPORT**

## **Prolonged Scrotal Pain Resulting from Testicular Schistosomiasis: Case Report**

Sani Iliya<sup>1</sup>, Yamuna Aminu Kani<sup>2</sup>, Yahaya Muhammad<sup>3</sup>, Ibrahim Muhammad Kamilu<sup>4</sup>, Pwanidi Sofeme-Alfred<sup>5</sup>, Mahmud Inusa Yandutse<sup>6</sup>, Adogu Ibrahim<sup>4</sup>

<sup>1</sup>Department of Biological Sciences, School of Pure and Applied Sciences, Mount Kenya University Thika, Kenya

<sup>2</sup>College of Medicine and Health Sciences, Federal University Dutse, Dutse, Nigeria

<sup>3</sup>Department of Chemical pathology Rasheed Shekoni Teaching Hospital Dutse, Jigawa, Nigeria

<sup>4</sup>Department of Histopathology Rasheed Shekoni Teaching Hospital Dutse, Jigawa, Nigeria

<sup>5</sup>Department of Surgery, Rasheed Shekoni Teaching Hospital, Dutse, Nigeria

<sup>6</sup>Department of Chemical pathology Federal Medical Center, Katsina, Nigeria

### **ABSTRACT**

Testicular Schistosomiasis causes acute and chronic scrotal pain causes, typically by one or more species of blood flukes of the genus *Schistosoma*, which are rarely seen. Therefore, specimens for the diagnosis are usually biopsies from the testes and tissue sections from orchidectomy. This case report was aimed to present the diagnosis of testicular Schistosomiasis resulting from orchidectomy due to prolonged scrotal pain. Microscopic examination of a histological specimen stained by hematoxylin and eosin revealed dispersed viable and calcified ova of *Schistosoma haematobium*. This finding provided a rare case of testicular Schistosomiasis that clinicians and other healthcare professionals should be mindful of when dealing with cases with scrotal involvement, especially in endemic areas, to avoid unnecessary orchidectomy. *J Microbiol Infect Dis* 2022; 12(4):167-170.

**Keywords:** *Orchidectomy, testicular Schistosomiasis, S. haematobium, Histology*

### **INTRODUCTION**

Schistosomiasis is a tropical parasitic disease caused by blood flukes (trematodes) of the genus *Schistosoma* involving the bowel and bladder, leading to the passing of bloody stool and haematuria [1, 2]. The species that mainly cause Schistosomiasis include *Schistosoma mansoni*, *Schistosoma haematobium*, *Schistosoma mekongi*, *Schistosoma japonicum*, and *Schistosoma intercalatum* [2].

Testicular Schistosomiasis, which is uncommonly described, has been found to affect the scrotum and seminal vesicles resulting in scrotal pain, dermatitis, and hydrocele [3]. Therefore, histopathological specimens, normally biopsies from the testes and tissue sections from orchidectomy, are usually taken and examined to diagnose testicular Schistosomiasis [4-6].

This report presents a rare case of testicular Schistosomiasis in an adult Nigerian male with

acute scrotal pain as the primary initial presenting symptom.

### **CASE**

A 39-year-old Nigerian male was admitted to the Emergency Surgical Unit of Rasheed Shekoni Teaching Hospital, Dutse, Nigeria, with 18 months history of scrotal mass and pain, later diagnosed histologically as Schistosomiasis after orchidectomy. There was an associated frequency of micturition, but no associated fever, malaise, weight loss, haematuria, or other constitutional symptoms. Previously, the patient's record revealed no history of trauma, dysuria, urethritis, undescended testes, or surgical operations but there was swelling in the groin region.

Over the past 2-years, the patient has undergone lots of tests (complete blood counts, hormones, alpha-fetoprotein, seminal analysis, test for acid-fast bacilli e.t.c.) and different scans for the diagnosis of his

condition, recurrent scrotal pain, and bilaterally swollen testes with thickened spermatic cords were the predominant and persistent symptoms over the past 18 months.

Genital examination revealed painless swelling in the left hemiscrotum, measuring 17 X 12 X 8cm containing fluid extending to the neck of the scrotum covered with thick tense scrotal skin. The right hemiscrotum revealed normal size testis. The serum levels of luteinizing hormone (LH), follicle-stimulating hormone, Prolactin, Estradiol, and alpha-fetoprotein were within accepted reference ranges. The complete blood counts revealed hemoglobin of 8.1 gm% and a white cell count of 7,200/mL (polymorphonucleocytes 37%, lymphocytes 36%, monocytes 10%, eosinophils 15%). The semen, urine, and sputum were negative for Ziehl-Neelsen stain and culture. The urinalysis showed white cells with few erythrocytes. Seminal fluid analysis revealed moderate oligozoospermia of 10.5 million, with progressive motility (A+B) of 19%, linear velocity of 15.1µm/s, and normal seminal fluid.

The specimen received in the histopathology laboratory revealed a greyish-white nodular surface measuring 7x3x3 cm. Microscopically, sections show that interstitium was filled by multiple *S. hematobium* ova associated with granulomatous within which are dispersed viable and calcified *Schistosoma* ova. In addition, small giant cells are dispersed within fibro collagenous stroma with eosinophilic and lymphohistiocytic infiltrates. No viable seminiferous tubule is seen (Figures 1 and 2).

The patient was discharged on the eleventh-day post-operation and was followed up for over 12 months post-operative to monitor the recovery and progress. Therefore, clinicians must be aware of the scrotal involvement in Schistosomiasis, especially in endemic regions.

## DISCUSSION

Testicular Schistosomiasis due to *S. mansoni* is the most reported case whereby Schistosomiasis progresses with the formation of testicular nodules through migration of larva from lungs into genitourinary venous plexus [3,4,7,9]. Still, we report *S. haematobium* as the causative agent in this case. The patient has undergone several tests and examinations in the quest for his health regarding scrotal swelling and pain.

Urogenital Schistosomiasis is distributed mainly in Africa, the Middle East, and Corsica [10]. That is why most testicular schistosomiasis cases emanate from these regions. Our patient came from the Sakwaya area of Dutse Local Government, Jigawa. This province has a dam, and many irrigation projects are carried out, potentiating schistosomiasis outbreaks.

The patient spent 7-8 months receiving medical attention in primary healthcare (a resource-limited facility). Unfortunately, Schistosomiasis was not diagnosed until after the testes were compromised, leading to orchidectomy. The procedure could have been prevented had the case been reported earlier at a tertiary healthcare institution; therefore, the previous history of Schistosomiasis with unusual scrotal pain should arouse suspicion of testicular Schistosomiasis and be considered in diagnosing scrotal mass and sudden pain. In addition, this rare disease can be diagnosed by histological examination of specimens from orchidectomy.

After the surgery, the patient was placed on praziquantel therapy to ensure the complete elimination of the parasite; the client was discharged on the ninth day of the surgery after showing good post-operative recovery with a negative for Schistosomiasis.

## Conclusion

Awareness and early presentation of testicular Schistosomiasis will prevent unwarranted orchidectomy. In addition, clinicians must be aware and alert of the scrotal involvement in Schistosomiasis with its variable presentations, such as prolonged scrotal pain and swelling, especially in endemic places.

## ACKNOWLEDGMENTS

The support given by the entire staff of the Laboratory Department Rasheed Shekoni Teaching Hospital (RSTH), especially the Histopathology Unit, is highly appreciated during the processing and analysis of the specimen. We also acknowledge the assistance and support received from the Medical and Surgical Units of the Male ward of RSTH during the recruitment and management of the patient.

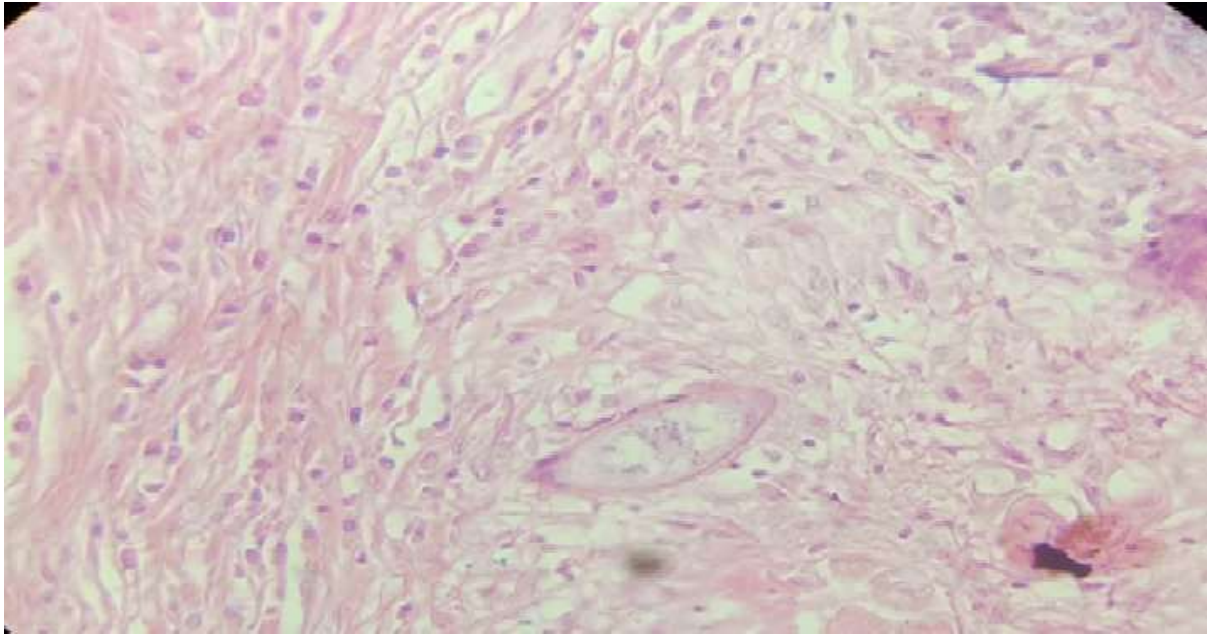


Fig 1; Section of testis showing calcified *Schistosoma haematobium* ova. Lower magnification (H&E X40).

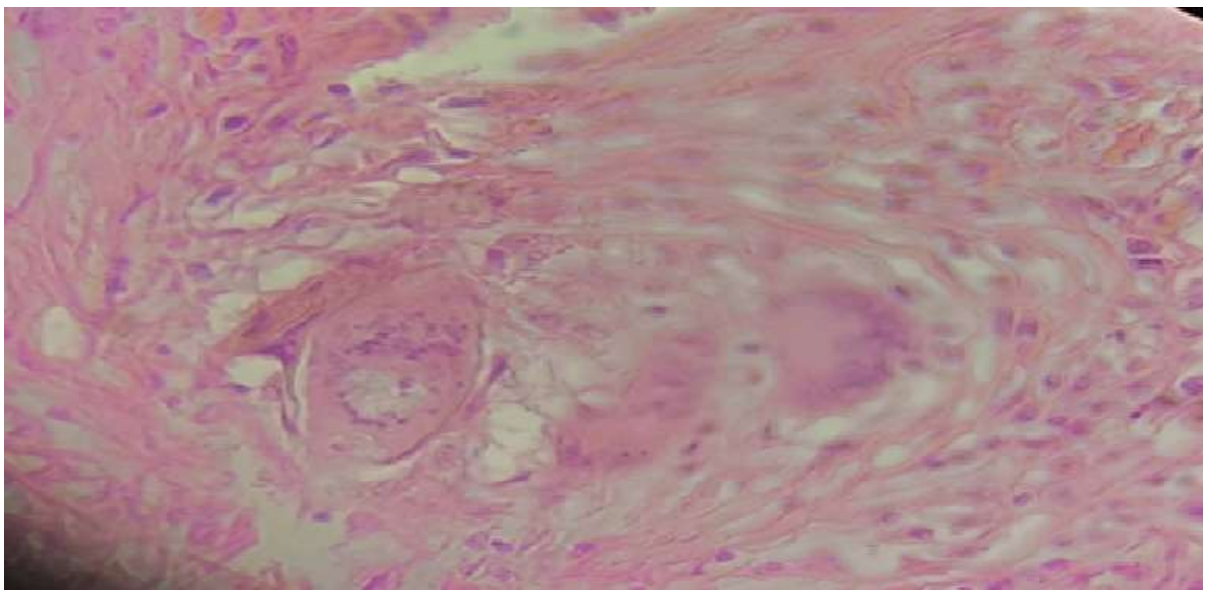


Fig 2. High magnification of stained section of (H&E X 200) showing viable and calcified *Schistosoma haematobium*.

**Declaration of conflicting interest:** The author(s) declare no potential conflicts of interest concerning this article's research, authorship, and/or publication.

**Financial disclosure:** No financial support was received for this study

## REFERENCES

1. Jatsa, HB, Femoe UM, Dongmo CN, et al. Reduction of testosterone levels in *Schistosoma haematobium*- or *Schistosoma mansoni*-infected men: a cross-sectional study in two schistosomiasis-endemic areas of the Adamawa region of Cameroon. *BMC Infect Dis* 2022; (22): 230.
2. Dawaki S, Al-Mekhlafi HM, Ithoi I, et al. The Menace of Schistosomiasis in Nigeria: Knowledge, Attitude, and Practices Regarding

- Schistosomiasis among Rural Communities in Kano State. *PLoS One* 2015 (25):10-11.
3. Rambau PF, Chandika A, Chalya PL, Jackson K. Scrotal Swelling and Testicular Atrophy due to Schistosomiasis in a 9-Year-Old Boy: A Case Report. *Case Reports in Infect Dis* 2011:787961.
  4. Hassan AO, Amoo AO, Akinwale OP, et al. Human water contact activities and urinary Schistosomiasis around Erinle and Eko-ende dams. *Global Adv Res J* 2012; (4):77-84.
  5. Sinha V, Shankar M, Sardana N, and Agarwal, R. A Rare Case of Epididymal Cyst Due to Schistosomiasis. *Cureus* 2019; (25):e5755
  6. Yakubu AA, Mohammed AZ, Sheshe AA, Edino ST, Alhassan SU. Testicular Schistosomiasis: An Unusual Cause of Acute Scrotal Pain. *Afri J Urology* 2005; 11 (3): 258-260.
  7. Neto NM, Grando JP, Moreira HA. Testicular Schistosomiasis mimicking tumour. *Interna Braz J Urol* 2004; 30 (6): 502-503.
  8. Hassan A, El-Mogy S, Zalata K, Mostafa T. Testicular schistosomiasis: a case study. *Fertil Steril* 2010; 95 (6): 2124.e1-4.
  9. Dauda MM, Rafindadi AH. Testicular Schistosomiasis simulating malignancy. *Tropic Doct* 2006; 36(3):182–183.
  10. Ihekweba FN. Schistosomiasis of the testis. *Central Afr J Medic* 1992; 38 (3):123-127.