

# *Testicular Schistosomiasis: A Case Report From An Endemic Country*

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## **Abstract:**

**Background:** Schistosomiasis is an endemic parasitic disease in Madagascar. The urogenital form is mainly caused by *Schistosoma haematobium*. Testicular involvement is rare, particularly in children, and may mimic a testicular tumor.

## **Case Presentation**

We report the case of an 8-year-old boy presenting with chronic right testicular pain. Imaging suggested a pseudotumoral lesion, leading to orchiectomy. Histopathological examination revealed inflammatory granulomas with schistosome eggs, confirming testicular schistosomiasis.

**Discussion:** Testicular schistosomiasis is exceptional but should be considered in endemic regions. The granulomatous reaction surrounding schistosome eggs results in progressive fibrosis of the testicular parenchyma, explaining the misleading clinical presentation. Histopathology is essential for diagnosis and differentiation from testicular tumors. Awareness of this entity is crucial to consider conservative diagnostic and therapeutic approaches when appropriate.

**Conclusion:** In endemic regions, testicular schistosomiasis must be included in the differential diagnosis of any testicular mass in children to prevent unwarranted surgical procedures and to ensure early initiation of antiparasitic treatment.

**Keywords:** Schistosomiasis, testis, child, granuloma, Madagascar.

## **Introduction**

Schistosomiasis is a parasitic disease caused by trematodes of the genus *Schistosoma*, representing a major public health problem in many tropical countries. In Madagascar, two species coexist: *Schistosoma haematobium*, responsible for urogenital disease, and *Schistosoma mansoni*, responsible for intestinal disease [1,2]. Urogenital schistosomiasis is widespread in the northern and western regions and often affects children at an early age [3,4].

Testicular involvement is uncommon and often underdiagnosed. Its clinical presentation may mimic a testicular tumor, frequently resulting in diagnostic orchiectomy. We report a case of testicular schistosomiasis in a child, confirmed by histopathological analysis, and discuss the clinical, radiological, and pathological features.

## **Case Presentation**

An 8-year-old boy from northwestern Madagascar presented with right testicular pain evolving for three months. The pain was progressive, without fever or trauma.

Clinical examination revealed an enlarged and tender right testis. The left testis was normal, and the scrotal skin showed no inflammatory sign. Laboratory tests revealed a mild inflammatory syndrome.

Scrotal ultrasonography showed an enlarged, heterogeneous right testis with microcalcifications, suggestive of a pseudotumoral lesion. A right orchiectomy was performed. The specimen measured  $4 \times 3 \times 2.5$  cm, with a spermatic cord of 3 cm. On sectioning, the parenchyma appeared firm, homogeneous, and yellowish (figure 1).

Histopathological examination (figure 2) revealed extensive replacement of the testicular parenchyma by dense fibrosis. Well-formed inflammatory granulomas composed of lymphocytes, histiocytes, and Müller-type giant cells were observed, centered around numerous schistosome eggs with terminal spines. No evidence of neoplastic proliferation was identified, confirming the diagnosis of testicular schistosomiasis.

## Discussion

The epidemiology of testicular schistosomiasis has not been specifically studied in Madagascar. Testicular localization is rare despite the high endemicity of urogenital schistosomiasis in northern and western regions [1,4]. Malagasy studies show that up to 40% of exposed males present eggs in their semen, suggesting that testicular involvement may be underdiagnosed [4]. In the literature, reported cases are mainly isolated case reports or small series, with no large epidemiological datasets [5–7]. As in our case, infection often begins during childhood [7]. Clinically, testicular schistosomiasis often presents as a pseudotumoral mass mimicking a testicular tumor, which explains the frequency of misleading cases and diagnostic orchiectomies [7]. Ultrasonography may show heterogeneous areas with calcifications, but these findings are non-specific [8]. Preoperative diagnosis relies on a combination of clinical and epidemiological indicators.

Histopathological findings are characterized by chronic granulomatous inflammation secondary to ectopic deposition of *Schistosoma haematobium* eggs within the testicular parenchyma [9,10]. This localization results from egg migration through the pelvic and spermatic venous plexuses, facilitated by vascular communications between the bladder and genital venous systems [4,8]. The hallmark finding is the presence of well-formed granulomas centered around schistosome eggs, sometimes calcified [9,10]. Soluble egg antigens trigger macrophage and CD4+ T-cell activation, driving granuloma formation [11]. Over time, granulomas evolve into dense fibrosis, destroying the testicular parenchyma and seminiferous tubules, explaining the firm, homogeneous gross appearance and pseudotumoral presentation [9–11].

The main differential diagnosis includes non-specific granulomatous orchitis (tuberculous, fungal, or idiopathic) [9,10]. Identification of schistosome eggs confirms the diagnosis.

Histopathological examination remains the gold standard for diagnosis. In endemic areas, awareness of this entity can help avoid diagnostic errors and support the use of targeted testicular biopsy to prevent unnecessary orchiectomy in children [3,10].

Testicular schistosomiasis highlights the destructive potential of chronic immune responses to schistosome eggs, leading to irreversible lesions well beyond the parasitic infestation itself [9–11].

## Conclusion

Testicular schistosomiasis represents a serious manifestation of urogenital schistosomiasis. In endemic regions, it should be considered in the differential diagnosis of any testicular mass in children. Diagnosis relies on histopathology, and early management may allow more conservative approaches and prevent mutilating surgical procedures.

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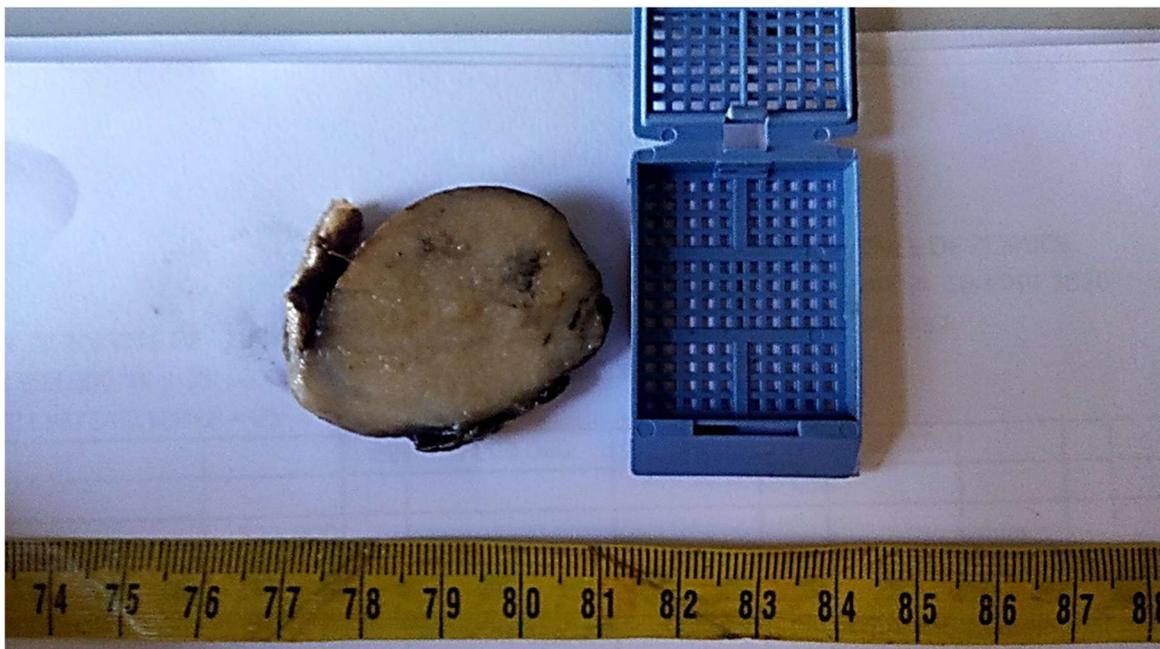


Figure 1. Macrophotograph of a testicular cross-section  
Source: Pathology Department of CHU JRA Antananarivo, Madagascar

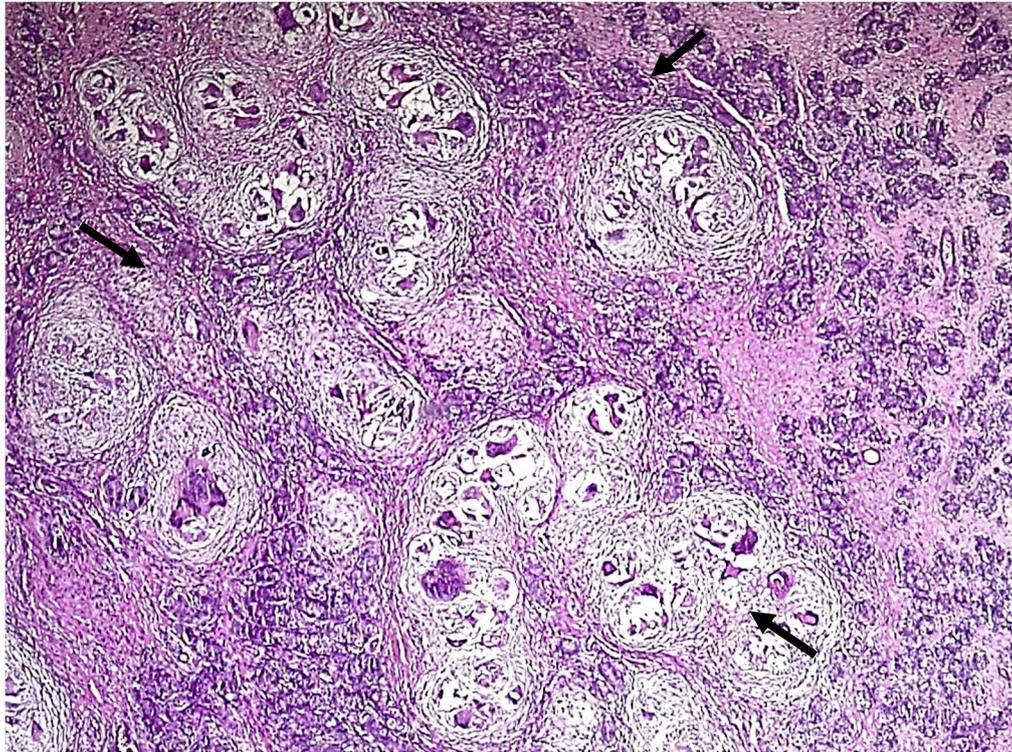


Figure 2. Microphotograph of testicular parenchyma showing inflammatory granulomas with giant cells (black arrows). H&E, ×400

Source: Pathology Department of CHU – JRA Anatomical Antananarivo, Madagascar.