

# Testicular schistosomiasis

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## ABSTRACT

تعد بلهارسيا الخصية حالة نادرة للغاية، مع وجود 12 حالة مسجلة فقط. كما أن تشخيص هذه الحالة التي تحاكي الأورام الخبيثة يعتبر معضلة كبيرة لطبيب الأشعة فضلاً عن طبيب المسالك البولية. نعرض هذه الحالة من فرنسا والتي تم علاجها بطريقة تحفظية. يبلغ عمر المريض 31 عام، مصري الجنسية، قدم إلى العيادة بسبب عقم أولي لمدة 9 أعوام. لم يظهر الفحص الجسدي أي تشوهات خلقية. كانت تحاليل الدم، ومستوى بروتين C، والاختبارات الهرمونية طبيعية. بينما أظهرت الأشعة بالموجات فوق الصوتية كتلة ورمية صغيرة في الخصية اليمنى، أظهرت الخزعة الجراحية البلهارسيا. وتم علاج المريض بالعقاقير الطبية اللازمة. لذلك يجب الفحص الشامل للمريض والتفكير بهذا المرض وخاصة للمرضى الذين يعيشون في المناطق الموبوءة. نؤكد في ذلك عدم دقة الأشعة في تشخيص مثل هذه الحالة.

Testicular schistosomiasis is extremely rare, with only 12 cases reported. Reaching the diagnosis for this lesion that mimics malignant tumor is a great dilemma for the radiologist as well as the urologist. We report a case of testicular schistosomiasis from France that was managed conservatively. A 31-year-old Egyptian male presented to the outpatient clinic with primary infertility for 9 years. Physical examination revealed healthy male without any congenital malformations. Blood count and C-reactive protein level were normal. Hormonal tests were normal. Scrotal ultrasound showed small mass at the right testis. Scrotal exploration was carried out and frozen section results were schistosomiasis. He was given medical therapy, and further investigations were normal. A thorough evaluation must be carried out, and testicular schistosomiasis may be considered in patients living in endemic areas. We emphasize the lack of data to reach this diagnosis by radiological imaging.

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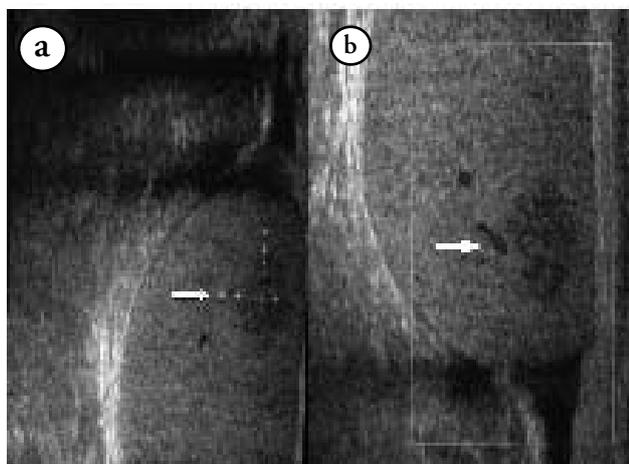
Schistosomiasis is one of the most important communicable diseases, both for public health and because of its socio-economic impact in the developing world. Different species of schistosoma are known to infect humans. Infection with *Schistosoma mansoni*, *Schistosoma japonicum*, and *Schistosoma mekongi* are associated with chronic hepatic and intestinal fibrosis. *Schistosoma haematobium* infection results in fibrosis, structuring and calcification of the urinary tract.<sup>1</sup> Reaching the diagnosis for this lesion that mimics malignant tumors is a great dilemma for the radiologist as well as the urologist. We report a case of testicular schistosomiasis. Initial presentation was primary infertility, and treatment was carried out by surgical excision and medical therapy. We present this case due to the rare entity of this pathology.

**Case Report.** A 31-year-old Egyptian male patient presented with primary infertility. Written informed consent was obtained from the patient for the publication of this case report and any accompanying images. He underwent full investigations, he had no history of chronic illnesses like diabetes, mellitus, or tuberculosis. On general examination, he was conscious, healthy, well built with normal vital signs. His abdominal and genital examinations were unremarkable. Urine microscopy was normal, and urine culture was sterile. His renal parameters, erythrocyte sedimentation rate and hemoglobin were within normal range. Two sperm analyses showed normal volume with no sperms (azoospermia) and many white cells. Biochemical analysis on 3 different ejaculatory specimens showed normal fructose (seminal vesicle), subnormal acid phosphatase, low citrate and zinc (prostate), and normal alpha 1-4 glucosidase. Beta-human chorionic gonadotropins, lactic dehydrogenase, alpha-feto protein were also normal. Moreover, testosterone: 7.5ng/ml (normal: 3.5-8.5), inhibine B: 45 pg/ml (normal: 80-270), follicle-stimulating hormone: 10 UI/L (3-7), luteinizing hormone: 6.9 UI/L (3-8). Genetic work-up

**Disclosure.** The authors declare that they have no competing interests.

revealed 46, XY with no Y chromosome micro deletion. Scrotal ultrasound (**Figure 1**) showed normal left testis of 14 cc, right testis of 13 cc presenting with nodular ovoid lesion of 5–6 mm, located at the upper pole of testis, hypervascularized on Doppler-ultrasound with poor margins. Epididymides were normal. There was no varicocele, and no microlithiasis. Due to the high index of suspicion of malignancy, he underwent surgical exploration of right testis. Tumorectomy was performed for frozen section showing bilharzial granulomatous orchitis. He made an uneventful recovery and was discharged home on postoperative day 3. The complete histopathology report (**Figure 2**) confirms testicular schistosomiasis with Bilharzian eggs and very few numbers of germ cell (maturation arrest and sertoli cells syndrome), which also confirms non-obstructive azoospermia. Serodiagnosis of bilharziasis was positive to 1/512. Medical treatment using praziquantel (20 mg/kg 3 times a day as one-day treatment) was given following surgery. We carried out further investigations including intravenous urography, and cystoscopy as outpatient follow-up, and both were strictly normal. The follow-up, period was up to 6 months without further sequences and no evidence of disease.

**Discussion.** Urogenital schistosomiasis is a rare condition except in endemic areas like Egypt, the middle of Africa, and southwestern Saudi Arabia. It can affect kidney, ureter, bladder, prostate, epididymis, and testis. The reason why schistosomal eggs are found in the testis has been a controversial issue.<sup>2</sup> In fact, this might be explained by portal hypertension, which seems to be an important condition to the development of ectopic lesions since the presence of collateral circulation (between the internal spermatic and mesenteric veins) would disseminate the eggs to other organs.<sup>2,3,4</sup> The eggs



**Figure 1** - The right testis of 13 cc a) arrow shows the lesion b) nodular ovoid lesion of 5–6 mm.



**Figure 2** - Shows eggs and group of eosinophilia (Periodic acid-Schiff stain x 400).

can cause allergic reactions in the testicle, which resemble a testicular neoplasia.<sup>4,5</sup> Testicular schistosomiasis can also cause testicular discomfort, swelling, nodule, or infertility. The clinical presentation in our patient was infertility, where only 2 cases were previously reported.<sup>6</sup> Patients who are presenting with testicular mass are always suspicious of harboring cancer since 80% of such lesions are germ cell carcinoma.<sup>4</sup> However, there are no reliable imaging methods to differentiate precisely testicular lesions and many benign cases were treated by radical orchiectomy when frozen biopsy is inconclusive.<sup>7,8</sup> Scrotal ultrasound findings may facilitate the diagnosis;<sup>6</sup> however, any hypoechoic nodule should be considered malignant unless proven otherwise, since it is the most common radiographic pattern for testicular cancer. Therefore, exploration or biopsy is mandatory. Testicular schistosomiasis in this patient was not surprising since he lived in Egypt (endemic) until 4 years ago. It usually mimics a malignant lesion presenting with painless small solid mass. Therefore, it should be one of the differential diagnosis especially in endemic areas.<sup>9</sup>

In conclusion, though rare, keeping this benign condition in the differential diagnosis of testicular mass, even in the absence of risk factors, will avoid unnecessary major surgical procedures, and morbidity for the patient.<sup>4,9</sup>

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