Incidentally Detected Schistosomiasis In Male Genital Organs: Case Reports and Review Of Literature

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Abstract
Introduction: Urogenital schistosomiasis is a major public health problem in the Middle East, especially Egypt. Male genital schistosomiasis (MGS) is a rare condition. It can affect prostate, epididymis and testis.
Presentation of the cases: The present report documents five cases of male genital schistosomiasis that were detected incidentally during histopathological examination of testis, prostate and spermatic cord.
Conclusion: there are few reports of male genital schistosomiasis described in the literature due to the rarity of this lesion in this system. It should be included in the differential diagnosis especially in endemic areas.

Keywords: schistosomiasis; male; genital; case report

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Introduction

Urogenital schistosomiasis is a major public health problem in Africa and in the Middle East [1]. *Schistosoma haematobium* infection involves mainly the urinary system. However, egg deposition can occur in any pelvic organ leading to the so-called ectopic localization [2]. Male genital schistosomiasis (MGS) was first described in 1911 in an Egyptian patient presenting with haemospermia [3]. Postmortem histopathological studies have shown that, in patients infected with *S. haematobium*, the seminal vesicles and the prostate are as frequently affected by egg-induced lesions as urinary bladder [4,5]. However, the intensity of infection was higher in the bladder than in other organs of the genitourinary tract [4]. The present report documents five cases of male genital schistosomiasis that were detected incidentally during histopathological examination of testis, prostate and spermatic cord.

Case presentation

Case I: A seventy-one years old man attended at the outpatient clinics of Mansoura nephrology and urology center complaining of lower urinary tract symptoms. Digital rectal examination revealed hard prostate. PSA was 10.6 ng. The patient was submitted to TRUS biopsy. It revealed prostatic adenocarcinoma involving 100% of all the six cores; Gleason score 4+3=7. So, the patient was managed by subcapsular orchitectomy. During histopathological examination of the testis, many calcified bilharzial ova were present within in the interstitium of the testis (Figure1).

![Figure 1](image.png) Many calcified bilharzial ova (white arrow) are seen within the interstitium of the testis (H&E x200)
Case II: A fifty-four years old man attended at the outpatient clinics of Mansoura nephrology and urology center complaining of small sized left testis. Examination of the left testis revealed atrophic testis measuring 2.2x2x1 cm, which was removed together with the left spermatic cord. Histopathological sections revealed seminiferous tubules with average size and shape with somewhat thickened basement membrane and lining spermatogenic cells up to round spermatids. Interstitium of the testis showed multiple dead calcified and viable bilharzial ova (Figure 2).

Figure 2 A group of calcified bilharzial ova (white arrows) are seen within the interstitium of the testis (H&E x400)

Figure 3 One calcified bilharzial ova (white arrow) was seen within the capsule of the prostate (H&E x200)
Case III: A seventy-five years old man attended at the outpatient clinics of Mansoura nephrology and urology center complaining of urinary tract symptoms. Digital rectal examination revealed enlarged prostate. PSA was 22 ng. He underwent TRUS biopsy. Histopathological sections revealed hyperplasia of both glands and stroma of the prostate. Calcified bilharzial ova was also detected. So, the final diagnosis was benign prostatic hyperplasia associated with bilharzias (Figure 3).

Case IV: A sixty years old man complaining of hematuria underwent endoscopic biopsy and revealed high grade urothelial carcinoma of the bladder with muscle invasion. So, the patient was managed by radical cystoprostatectomy. Histopathological examination of the seminal vesicles revealed many calcified bilharzial ova (Figure 4).

Figure 4 Many calcified bilharzial ova (white arrow) are seen within the stroma of the seminal vesicle (H&E x200)

Figure 5 One dead bilharzial ova (white arrow) was seen within the tissue of the spermatic cord (H&E x200)

Case V: A forty years old man complaining of left testicular swelling underwent high inguinal
orchidectomy and histopathological examination revealed testicular seminoma with free spermatic cord safety margin. Calcified B ova was detected incidentally at the spermatic cord safety margin (Figure 5).

Discussion

Male genital schistosomiasis is a rare condition. It can affect prostate, epididymis and testis [6]. Testicular schistosomiasis is extremely rare, with only 13 cases reported till 2011. It could be caused by migration of S. mansoni eggs through venous channels between the internal spermatic and mesenteric veins as a result of portal hypertension [7]. It usually mimics a malignant lesion presenting with a painless small solid nodule [8]. However, in our cases, testicular schistosomiasis was discovered accidentally.

The other rare site of MGS is the prostate. Adults of S.haematobium live in the perivesical venous plexus and deposit its eggs in the bladder wall and to lesser extent uterus, vaginal wall and prostate [9]. In one study carried out in autopsied patients with schistosomiasis, the prostate were affected in 6.5% of cases [10]. Moreover, studies carried out in endemic areas for S. mansoni, such as South America, raised the possibility of significant association between schistosomiasis and prostate cancer. The fibrosis in the stroma and the possible secondary glandular atrophy observed in schistosomiasis of the prostate may induce preneoplastic glandular changes [11]. In contrast, our case showed the presence of schistosomiasis with benign prostatic hyperplasia with no evidence of prostatic intraepithelial neoplasia or adenocarcinoma.

Lopes et al. [12] reported the first case of Schistosomiasis mansoni in the seminal vesicle. However, the involvement of the prostate and seminal vesicle by haematobium species is a frequent finding in African countries such as Egypt [13]. Here, we reported a case of schistosomiasis of the seminal vesicles in patient with high grade muscle-invasive urothelial carcinoma treated by radical cystoprostatectomy. There is a geographical coincidence between bladder cancer and urinary schistosomiasis in some highly endemic areas of Africa and the Middle East. El-Bolkainy et al. [14] reported that 82.4% of a series of 1095 bladder cancer cases treated by radical cystoprostatectomy had demonstrable schistosoma eggs. Another complication of genital schistosomiasis that it causes inflammatory lesions, and subsequent fibrosis in the seminal vesicles and prostate. Most of these lesions are asymptomatic, though the subsequent fibrosis may lead to sterility in men [15].

Our last case was schistosomiasis of the spermatic cord. A review of bilharziasis of the genitourinarytract had not mentioned the involvement of spermatic cord [16]. On the other hand, Durand et al. [17] reported a case of 24 years old man who developed funiculitis due to S. haematobium. He complained from pain in the testis and right iliac fossa and later he developed hematuria. Eggs of S.haematobium were found in the semen of the patient. Here, we reported the second case. Our patient had testicular tumor and schistosomiasis of the spermatic cord was an incidental finding in an uncommon localization.

In conclusion, there are few reports of male genital schistosomiasis described in the literature due to the rarity of this lesion in this system. It should be included in the differential diagnosis especially in endemic areas.

References


