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URINARY BLADDER SCHISTOSOMIASIS: A CASE REPORT

Urology

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ABSTRACT

Schistosomiasis is an endemic helminthic disease Found mainly in Africa and middle east countries. Schistosomes display considerable biodiversity in habitat, host range, and epidemiology globally. Indian subcontinent has always been considered as a low risk region for human schistosomiasis. Several species has been described in India which may have association with human infection and cercarial rash. Although sporadic cases are not uncommon, the status of human schistosomiasis in India is not well investigated. A 20 year old male presented with hematuria imaging was done which was suggestive of bladder mass. Transurethral resection of Bladder mass was done histopathology of which showed eggs of Schistosomiasis. Tb Praziquintal was started for 2 months. Regular follow up was done with urine examination of Schistosomiasis eggs.

KEYWORDS

Introduction

Urinary schistosomiasis, caused by Schistosoma haematobium , is reported to be endemic in 54 countries in Africa and the Middle East [1]. The urinary bladder, the lower ends of the ureters, and the seminal vesicles are the most commonly affected organs [2]. The pathological lesions in urinary schistosomiasis result from the granulomatous host response to the deposition of schistosome eggs in the tissues. The status of human schistosomiasis in India is not well established. India has always been considered as a non-endemic country for human schistosomiasis. The non-existence of intermediate host of anthropophilic schistosomes in India is believed to be the principal reason which precludes the natural lifecycle of these schistosomes in Indian subcontinent [3]. However, at least three endemic foci of human schistosomiasis had been described in India previously and sporadic autochthonous cases and cercarial dermatitis are also not uncommon [4-7]. Moreover, several unique schistosome species of animals are prevalent in India. The case is presented of urinary schistosomiasis in a young Indian Male who has recently visited Africa. The disease was diagnosed by histopathological examination of the tissue resected by Trans urethral resection of the bladder mass.

Case Report

A 20 year male from Gujarat India presented with complains of hematuria (mild intermittent and not associated with clots) since 1.5 years. The patient has history of visit to Africa 6 months back for 1.5 years. Patient had no significant past medical, surgical or family history. No history of smoking and tobacco chewing or any addiction. Physical examination normal. The results of blood biochemical and hematological tests were normal. X ray KUB was normal and no calcification seen. Ultrasound of KUB region show 26 x 20 mm hypoechoic lesion in left lateral wall of bladder, both kidney were normal. CECT abdomen and pelvis shows asymmetrical wall thickening of urinary bladder involving left inferolateral wall of urinary bladder with polypoidal in growth. Both kidney are normal.

Trans urethral resection of bladder mass was done under spinal anaesthesia. The diagnosis of Schistosomiasis was confirmed by histopathologic examination showing marked chronic inflammatory response along with schistosomia eggs. We have started Tb Praziquantel 1200mg (20 mg/kg) BD for two months. Regular follow up was done with urine examination of Schistosomiasis eggs.

Discussion

Schistosoma haematobium is the most common cause of hematuria in countries where the disease is endemic. The bladder, lower ureters, urethra, seminal vesicles, uterus, cervix, and vagina are the sites usually affected. The main presenting features of

urinary schistosomiasis are painful terminal hematuria, loin pain, and symptoms of secondary bacterial infection. Symptoms associated with genital schistosomiasis are dysmenorrhea, menorrhagia, leucorrhea, lower abdominal pain, and intermenstrual bleeding 8.The deposition of schistosoma eggs in the bladder submucosa provokes the formation of granulomas. Coalescence of granulomas leads to the formation of pseudotubercles, which appear as seed-like bodies surrounded by a zone of hyperemia and which are characteristic of early and active disease. Congregation of the tubercles, hyperplasia of the mucosa, and hypertrophy of the bladder wall muscle result in nodular or polypoid lesions that tend to ulcerate and bleed. The most common late lesion is the " sandy patch " where calcifi ed ova beneath the atrophic mucosa appear like sand. The bladder mucosa loses its pink appearance, the subepithelial branching of blood vessels is not visible, and the picture is described as " the ground glass " mucosa. [8,9,10] Pseudotubercles and all the changes described in the bladder may be present in the wall of the ureters. US has become the gold standard for evaluation of pathology in urinary schistosomiasis. Transrectal US is more sensitive for appearance of prostatic [10,11] and seminal vesicle lesions. [11] The assessment of bladder pathology includes identifi - cation of surface irregularities, thickening of the wall, masses, and pseudopolyps. [12].

Hatch reported a case of urinary schistosomiasis in an Englishman who was admitted in European General Hospital, Bombay in 1878 [13]. However, this first known case of human schistosomiasis in India was not an indigenous case. The patient had been in Arab and Egypt and likely to have acquired the infection from these endemic countries. In subsequent years, Hatch published a record of about 12 cases of human urinary schistosomiasis and its diagnostic features based on his observation in Jamsetjee Jejeebhoy hospital, Bombay [14]. However the first autochthonous case in an Indian aborigine was reported in 1903 [15]. Several sporadic cases have been reported thereafter from different parts of the country and also three endemic foci have been identified [Table/Fig-3] [16, 17].

Maharashtra state holds an important place in history of schistosomiasis in India. In middle of twentieth century, the discovery of endemic focus of human schistosomiasis was a breakthrough in schistosomiasis research in India. The pioneer work of Gadgil and Shah established the epidemiology and lifecycle of Schistosoma spp of Gimvi. Based on the infection experiments with common snail species existing in the area, they reported F. tenuis as the natural intermediate host of schistosome . Although controversies exist on the taxonomy of this species of schistosome, Gadgil and Shah reported it as S. haematobium . A resurvey in 1958 showed decrease in overall incidence of infection in Gimvi. In addition to this, two endemic foci of human schistosomiasis were discovered from Madras

(Tirupparankundaram village, Madurai district) and Madhya Pradesh (Lahager village, Raipur district) . However, with the elimination of foci of schistosomal infection, the number of human infection reduced significantly.

Conclusions:

Though Schistosomiasis is not found in India but it can be present in people travelling to endemic areas of schistosomiasis. Schistosomiasis is the first diagnosis to evoke for people coming from endemic areas with hematuria (macroscopic and microscopic), CT is superior to US in the diagnosis of urinary schistosomiasis, because it gives more, and more specific, information about the affected organs, the extent of lesions, and the degree of calcifications, the best method for evaluation of the response to treatment is cystoscopy combined with histological examination of biopsy material, but it is an invasive technique and cannot be routinely performed for all

Reports of human schistosomiasis	Findings
Hatch	First case of human schistosomiasis in India
Hatch	Findings in 12 patients of urinary schistosomiasis
Powell	First indigenous case of human schistosomiasis in India
Sewell	Schistosomiasis in a British soldier
Christophers et al.,	Polymorphism of eggs: both *S. haematobium* as well as *S. spindle* type eggs were present in urine of a native Indian patient from Madras.
Wardrop	Reported 5 cases of which 2 were indigenous
Hooton	One indigenous case from Rajkot, Gujarat
Harkness	Urinary schistosomiasis in an Englishman , infection probably acquired in India
Milton	Urinary schistosomiasis in a British soldier in Secunderabad, infection probably acquired in India
De Mello	Urinary schistosomiasis in a Indian boy from Goa
Andreasen et al.,	Urinary schistosomiasis in a Indian soldier who was posted in Pune, Maharashtra
De Sa et al.,	First case of urinary schistosomiasis in an Indian girl from Gimvi village of Ratnagiri District, Maharashtra. This was the index which led to the discovery of this endemic focus.
Gadgil et al.,	Findings of survey in Gimvi village- 46% villagers had urinary schistosomiasis with hematuria as the most prominent finding.
Gadgil et al.,	An indigenous case *S. haematobium* infection from Nasik district
Dhanda	In a routine stool examination in Delhi, 4 out of 500 stool samples showed schistosome eggs
Santhanakrishnan et al.,	Identified Tirupparankundaram village, Madras as endemic focus
Srivastava et al.,	Identified Lahager village, Madhya Pradesh as endemic focus. 53 out of 263 urine samples showed haematuria, and one had eggs suggestive of *S. haematobium*.
Amonkar et al.,	Reported a case of squamous carcinoma of the bladder induced by urinary schistosomiasis
Savardekar et al.,	Reported a case of squamous intraepithelial neoplasia after *S. haematobium*infection
Sahu et al.,	Reported a case of tubal schistosomiasis associated with ruptured ectopic pregnancy

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