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Isolated Tuberculosis of the Epididymis

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(Received on 10.09.2016, Accepted on 15.09.2016)

Abstract

It is generally agreed that tuberculosis of the epididymis is secondary to tuberculosis of the genitourinary tract. We report on a case of isolated tuberculosis of the epididymis in the absence of obvious renal, bladder or prostatic involvement.

Keywords: Epididymo-Orchitis; Tubercular Epididymitis; Biopsy; Histopathological Examination.

Introduction

Extrapulmonary tuberculosis (TB) accounts for about 10% of all tuberculosis cases. Genitourinary (GU) TB accounts for 30% to 40% of all extrapulmonary TB, second only to lymphonodal affection [1,2]. In developed countries, urogenital tuberculosis occurs in 2% to 10% of cases of pulmonary tuberculosis, while in developing countries it occurs in as many as 15% to 20% of cases [1]. Tubercle bacilli reach the epididymis by hematogenous spread. The disease initially affects the more vascular globus minor. Tubercles form within the epididymal epithelium eliciting a chronic inflammatory reaction that subsequently leads to fibrous narrowing and possible obliteration of the lumen. With disease progression, large caseous foci may form leading to a nodular epididymis [1].

It is generally believed that tuberculosis of the epididymis is secondary to tuberculosis elsewhere in the genitourinary tract. At times tuberculous epididymo-orchitis may be the first or only presentation of GU tuberculosis. It is also well known that intravenous urogram or urine examination may fail to identify a renal lesion, therefore all cases of

isolated epididymal tuberculosis may not be isolated in true sense. We report on a rare case of isolated epididymal tuberculosis in a young adult.

Case Report

A 32 year old unmarried male patient approached the urological services of the hospital with symptoms of painless scrotal swelling of one month duration. The patient was to get married and hence was worried as to whether this swelling would affect his sexual life. The patient had no other local/constitutional symptoms such as fever, loss of weight/appetite and pain. Routine urine examination showed no abnormality. Ultrasonography showed an enlarged epididymis with secondary hydrocele on the left side. The right hemiscrotum appeared normal. The rest of urinary tract appeared normal. A clinical diagnosis of chronic epididymo-orchitis was made and patient was put on a course of oral fluoro-quinolones.

The swelling persisted and Magnetic resonance imaging (MRI) revealed a bulky left epididymis with mild degree hydrocele. No areas of necrosis were noted. The patient was advised biopsy/excision of epididymis. The serum tests for HIV infection were negative and the patient had a normal chest x-ray. Testicular tumor markers were within normal limits. On exploration of the scrotum, the tunica appeared thick, the hydrocele fluid appeared hazy and the testis and epididymis appeared inflamed (Figure 1 and 2). The epididymis was firm to craggy to feel. The firm part of the epididymis was excised and sent for histopathological examination. The histopathological report confirmed the diagnosis of tuberculosis with sections of epididymis showing numerous caseating granulomatous lesions. The patient was started on anti-tubercular treatment.



Fig. 1: Explored left testis with epididymis



Fig. 2: Tubercles over the left testis and the epididymis

Discussion

Tubercle bacilli can affect more than one of the organs of the genitourinary tract and cause a chronic granulomatous infection. The spread of tuberculosis to the epididymis is considered to take place hematogenously or through a retro canalicular hematogenous pathway from an infected prostate. Because epididymal tuberculosis is more common than prostatic tuberculosis, the former mechanism is likely the more common one [3]. Isolated tuberculous epididymitis commonly develops in sexually active young men and is reported as the clinical onset of

human immunodeficiency virus infection [4]. The epididymis can also be involved by retrograde spread of infection from the urinary bladder and/or prostate [1].

In the early phases, tuberculous epididymitis is not discernible from bacterial epididymo-orchitis. The scrotal contents are enlarged and tender, with loss of definition between the epididymis and testis. Painful or painless scrotal swelling is a common feature at presentation in patients with tuberculous epididymitis. The involvement is usually unilateral [5]. In rare cases, acute or chronic non-specific epididymitis can be confused with tuberculosis, because the onset of tuberculosis is occasionally quite painful. The presence of sterile pyuria is a useful sign of tuberculous epididymitis. If the epididymal infection is extensive and an abscess forms, it can rupture through the scrotal skin, thus establishing a permanent sinus. Alternatively, it can extend into the testis [4, 5].

A positive tuberculin test supports TB infection but a negative test does not rule it out. Polymerase Chain Reaction (PCR) facilitates and accelerates the diagnostic specificity and sensitivity of 98% and 95% respectively [1]. Although scrotal ultrasonography is helpful in the assessment of scrotal tumors, the appearance of epididymal tuberculosis on ultrasonography is not distinct from that of bacterial epididymo-orchitis [6]. The most notable ultrasound findings of tuberculous epididymitis are an enlarged epididymis, predominantly in the tail portion, and marked heterogeneity of the echo texture of the involved epididymis [7]. Fine needle aspiration of the epididymis can be useful to distinguish epididymal tuberculosis from bacterial epididymo-orchitis; however, because of the risk of tumor spillage, fine needle aspiration should be avoided if a neoplasm is suspected [8]. A definite diagnosis depends upon positive culture, Ziehl-Neelsen staining and FNAC/ histological examination of the suspected tissue.

The treatment of tuberculous epididymitis consists of epididymectomy in patients with chronic forms and constitutes a diagnostic confirmation procedure [9]. Anti-tubercular treatment consists of combination of four drugs, i.e. rifampicin, INH, ethambutol and pyrazinamide. The duration of treatment is now reduced to 6 to 9 months if the primary drug resistance is ruled out [1, 10].

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