

Case Report

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Chronic Epididymo-Orchitis Mimicking Tuberculosis Turned Out to be Leprosy: A Case Report

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Abstract

We report a 55-year male with a prior history of treatment for bilateral Epididymo-orchitis without relief. We thought of genitourinary tuberculosis (GUTB) or nonspecific Epididymo-orchitis as differentials. Suddenly he developed crops of lepromatous skin lesions. On reviewing the literature, we found the involvement of testes in leprosy in 60-90% of cases. However, urology literature and textbooks do not mention leprosy to be a differential diagnosis of orchitis or chronic Epididymo-orchitis. Therefore, testicular atrophy, infertility or chronic Epididymo-orchitis should make us consider the possibility of leprosy, considering the half of the global burden in India.

Keywords: Chronic Epididymo-orchitis; Testicular atrophy; Orchitis; Leprosy; Infertility**Abbreviations:** GUTB: Genitourinary Tuberculosis; ED: Erectile Dysfunction; ENL: Erythema Nodosum Leprosum; MB MDT: Multibacillary Multi Drug Therapy; LUTS: Lower Urinary Tract Symptoms; UTI: Urinary Tract Infection; LH: Luteinizing Hormone; FSH: Follicle Stimulating Hormone

Introduction

The causes of chronic orchitis and Epididymo-orchitis are varied including, urinary tract infection (UTI), gonococcal or nongonococcal (chlamydia, ureaplasma) infections, genitourinary tuberculosis (GUTB), post-vasectomy and drug-induced. However, the Urology textbooks do not mention leprosy as a differential diagnosis in such cases [1]. Herein, we present a case of Epididymo-orchitis caused by leprosy with a review of the literature. Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*. Leprosy affects mainly the skin and peripheral nerves. Its diagnosis is established on the skin and neurologic examination of the patient. Involvement of testis and epididymis is well described in dermatology literature with an incidence ranging from 23.6% to 68.3% [2,3]. Testicular involvement is more in lepromatous leprosy and may result in infertility and impotence. However, practicing urologist does not keep this condition as a differential diagnosis

and many such cases might remain undiagnosed. There are several classification systems validated for leprosy. The most commonly used Ridley & Jopling classification system (1966) is based on the concept of spectral leprosy and uses clinical, immunological, and histopathological criteria [4]. The spectrum consists of tuberculoid form at one end and the lepromatous form at the other end. The borderline form is divided into borderline-tuberculoid, borderline-lepromatous, according to the greater proximity to one of the poles, and borderline-borderline. Multi-Drug Therapy is the cornerstone of the treatment of leprosy.

Case History

A 55-year Hindu male, resident of Bikaner, Rajasthan, a farmer by occupation came with presenting complaints of scrotal swelling along with lower urinary tract symptoms (LUTS) and low-grade

evening rise of temperature for 7 months. He initially consulted many clinicians and had treatment with antibiotics and anti-inflammatory drugs without any improvement. He also had a loss of libido and erectile dysfunction (ED) (Sexual Health Inventory for Men score 8). He had completed his family with no history of extramarital contact. General physical examination was normal except low-grade fever. Local examination revealed left small testis (reduced sensation), bulky epididymis and right Epididymo-orchitis with secondary hydrocele. There was no gynecomastia and he had male pubic hair pattern. Nonspecific Epididymo-orchitis and genitourinary tuberculosis were kept as differentials. He was investigated on these lines. His ESR was 38, total counts were 13000 with polymorphonuclear Leukocytosis. Uroflowmetry

(Qmax 18ml/sec) was normal. Ultrasonogram suggested Bilateral epididymitis and testicular atrophy with left-sided hydrocele. Ultrasound abdomen did not pick up any mesenteric or retroperitoneal lymphadenopathy. During his hospital stay, he developed crops of erythematous, raised, painful, nodules with ulceration. Biopsy of skin lesion was taken which was suggestive of lepromatous leprosy (Figure 1).

After reappraisal, he was found to be a defaulter of multibacillary leprosy two years ago. Even at this stage, we did not suspect it to be due to leprosy. On reviewing dermatology literature leprosy involvement of testis was suspected. Biopsy of testis and epididymis were then taken, which showed evidence of leprosy (Figure 2 and 3).



Figure 1: Skin lesions in both upper limbs.

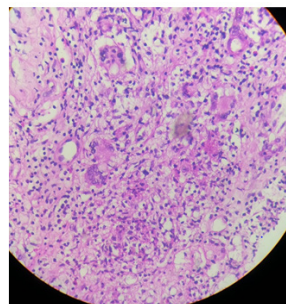


Figure 2: Zeihl-Neelson staining showing Acid Fast bacilli (*Mycobacterium leprae*) Low power.

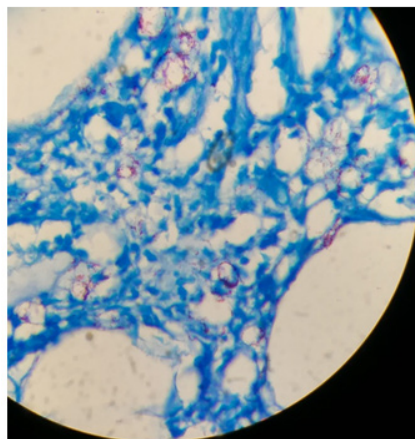


Figure 3: Zeihl-Neelson staining showing Acid Fast bacilli (*Mycobacterium leprae*) High- power.

Levels of serum testosterone, luteinizing hormone (LH), follicle-stimulating hormone (FSH) were 184.7ng/dl (249-836), 19.39IU/l (1.5-9.3), 23.13IU/l (1.4-18.1) respectively. The patient refused for semen analysis. He was started on multibacillary multi-drug therapy (MB MDT). Three to four days later he developed Erythema Nodosum Leprosum (ENL) which was managed with continued MB MDT and steroids. He improved and later discharged on MDT.

Discussion

Epididymo-orchitis, scrotalgia and orchitis are common urological ailments. Testicular involvement by leprosy is quite common, incidence ranging from 23.6% to 68.3% [2,3]. India accounts for half of the leprosy burden of the world. The average national child leprosy rate in India is 9% and borderline tuberculoid leprosy was the most common clinical type [5]. Trojjan and colleagues have reviewed chronic epididymitis and orchitis without mention of leprosy as a differential [6]. Leprosy secondarily involves eyes, bones, lymph nodes and testes. Testicular involvement is most common, often bilateral and bloodborne. It affects both seminiferous tubules and interstitium leading to a rise in serum LH, FSH. The testes become small, firm with loss of sensation in advanced disease. Degenerated nerve fibres seen on histopathology explain diminished testicular sensation on palpation. The lower temperature of the organ is a proposed factor for the growth of *M. leprae* in testis [7]. Bilateral testicular atrophy results into loss of libido, infertility and impotence. Leydig cell degeneration along with liver changes could account for gynecomastia as liver takes an active part in inactivation of oestrogen. Liver biopsies may be done to document lepromata. Presence of bacilli in histopathology in Ziehl-Neelson smears is diagnostic as seen in our case. These bacilli are not seen if patients are on long term treatment [2]. Epididymal involvement in leprosy is uncommon, non-sexual and non-venereal in origin. Involvement is secondary to testis due to anatomical proximity and common vascular supply [8]. Infertility in leprosy is mainly due to the involvement of testis (85%) with epididymis

being the cause in 10-15% [7]. On the contrary, infertility in tuberculosis results from epididymal obstruction.

Conclusion

While evaluating a case of testicular atrophy, chronic Epididymo-orchitis, infertility, ED or gynecomastia leprosy should be kept in mind in endemic areas. Urology textbooks do not consider leprosy as a differential diagnosis.

Acknowledgment

None.

Conflict of Interest

No conflict of interest.

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