Tubercular Epididymo-orchitis: A Case Report

Alam JM[1], Bhuiya MFA[2], Khan MF[3], Akter K[4]

Abstract

Tuberculous Epididymo-orchitis (TBEO) is a rare manifestation of genitourinary tuberculosis (GUTB), accounting for about 15-20% of GUTB cases. A young male of 35-year-old reported to a tertiary level hospital with the complaints of left-sided scrotal swelling associated with pain for the past 18 months. He was clinically diagnosed, and the diagnosis was supported by ultrasonography. The excisional biopsy was taken and histopathology confirmed the diagnosis as Tubercular Epididymo-orchitis.

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Case Report

A 35-year-old non-diabetic, non-hypertensive, smoker, married male presented with complaints of left-sided scrotal swelling associated with pain for the past 18 months. The swelling was gradually increasing in size. The patient belongs to a middle-class family and was immunized according to EPI schedule. According to the statement of the patient, he was reasonably well 1.5 years back and then he noticed a swelling over the left aspect of the scrotum. The swelling gradually increased in size and was initially painless, but during the last 2 months before reporting, he was feeling pain. The pain was dull aching, non-radiating, aggravated on movement and relieved on taking analgesics. His bowel and bladder habits were normal. There were no history of loss of weight, respiratory problems, fever, nor history of tuberculosis or tubercular contact. He had no significant medical history of trauma.

On examination, vitals were observed to be stable. On local examination the appearance and position of penis were normal. an erythematous swelling over the left side of the scrotum was observed and scrotal skin appeared thick (Figure 1). Palpation showed that swelling was warm and tender, non-fluctuating and did not trans-illuminate. Consistency was firm and beaded behind the testis. Testis could be palpated separately. Prehn's sign was positive and laxity of scrotal skin was present. The case was diagnosed provisionally as Chronic Epididymo-orchitis (Left). Routine blood tests showed that parameters were within normal limits. Chest X ray PA view revealed a

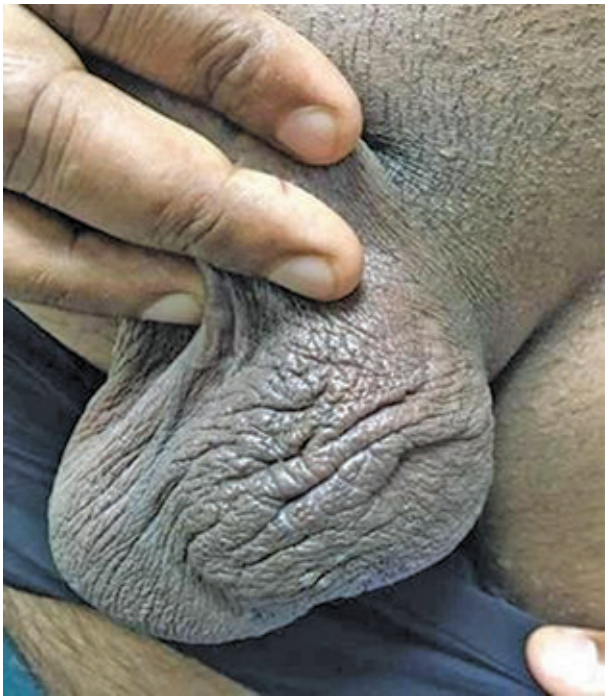

Figure 1. *Patient on reporting*

1. Prof. Md. Jahangir Alam, MBBS, FCPS, Professor and Head, Department of Surgery, IMC, Gazipur.
2. Prof. (Brig Gen) Md. Farook Ahmed Bhuiya, MBBS, FCPS, Professor, Department of Surgery, IMC, Gazipur.
3. Dr. Md. Fayaz Khan MBBS, Registrar, IMC, Gazipur.
4. Dr. Kajol Akter, MBBS, MD, Associate Professor, Department of Pathology, International Medical College.

Address of Correspondence: Prof. Md. Jahangir Alam, MBBS, FCPS, Professor and Head, Department of Surgery. International Medical College (IMC), Gazipur.

non-specific calcific foci in right lung. Ultrasonography (USG) scrotum revealed mildfluid collection in both scrotal sac and opined as a case of Acute Epididymo-orchitis (left), with small left Epididymal cyst, bilateral mild Hydrocele and bilateral testicular micro-calcification.

Based on history, physical examination and investigation findings, excisional biopsy and histopathology were planned. With all aseptic precautions, after proper painting and draping, an incision was made over the scrotal skin of the left side. The skin and superficial fascia were opened. After proper identification, surgical excision was carried and the content was sent for histopathology examination. There was minimal bleeding and skin closure was done by Vicryl 2.0 and Prolene 2.0. An antiseptic coconut bandage was applied over the testis. The histopathology revealed granulomatous inflammation consistent with tuberculosis and no malignancy was observed (Figure 2). So the final diagnosis of the case was 'Tubercular Epididymo-orchitis with bilateral secondary hydrocele'. Subsequently, the patient received anti-tubercular treatment and showed satisfactory improvement (Figure 3).

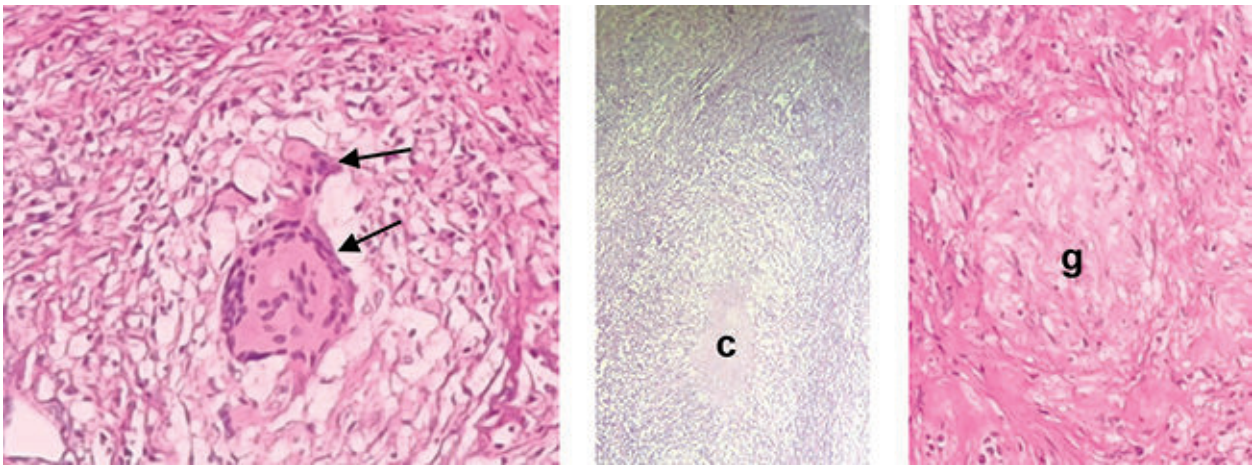

Figure 2: *Microphotograph showing Giant cells (arrow), Caseation necrosis (c) and Epithelioid cell granuloma (g)*

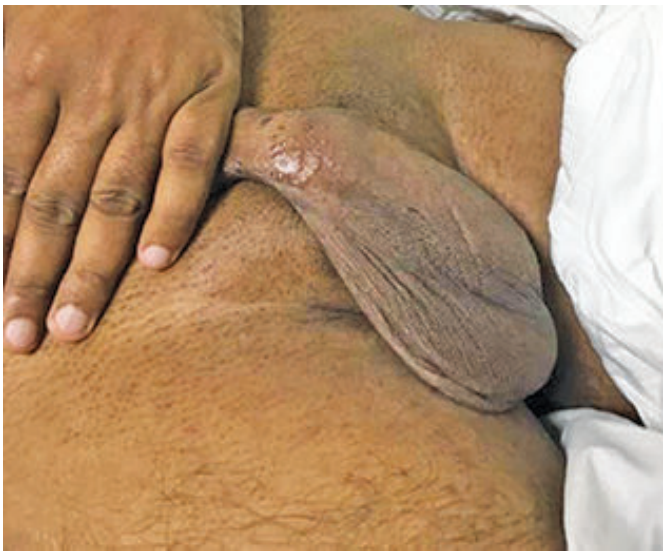

Figure 3: *Patient on follow up*

Discussion

Tuberculosis is as old as humanity itself. Though the appearance of vaccines controlled its haughtiness, still tuberculosis is the world's leading infectious disease killer. World Health Organization report revealed that global TB incidence has been rising since COVID pandemic. Most of the people who develop TB disease each year were in 30 high TB burden countries, which accounted for 87% of the global total in 2023. Five countries accounted for 56% of the worldwide total: India (26%), Indonesia (10%), China (6.8%), the Philippines (6.8%) and Pakistan (6.3%). In 2023, 55% of people who developed TB were men, 33% were women and 12% were children and young adolescents[1].

Globally, extra-pulmonary tuberculosis (EPTB) accounts for roughly 15-25% of all tuberculosis (TB) cases, with the African, South-East Asia and Western Pacific regions bearing the highest burden. This affects mainly the children and adults with compromised immune systems. The most common locations are the lymph nodes, pleura and the osteoarticular system[2].

In a recent systematic review conducted in the Pubmed, Embase and Scielo databases in search of studies on Urogenital Tuberculosis (UGT) in the past 60 years opined that suspicion of genital tract tuberculosis occurs in persistent hematuria or pollakiuria with sterile pyuria, stenosis and/or thickening of the urinary tract, or chronic prostatitis or epididymitis[3]. Urinary bacteriological tests have low sensitivity and a negative test does not rule out UGT diagnosis.

The researcher observed that Chronic epididymitis (unilateral or bilateral pain and thickening of epididymis for more than 3 months) with or without cutaneous fistulation are highly suspicious presentation of Tubercular Epididymo-orchitis[3]. In another systematic review, Markolinda et. al. observed that the common clinical manifestations were infertility, menstrual irregularities and tubo-ovarian masses[4]. The diagnostic methods of Tubercular Epididymo-orchitis vary and in most studies histopathologic confirmation and molecular methods were preferred[3]. Prevalence rates were higher in regions with an overall high burden of tuberculosis, especially in South Asia and Sub-Saharan Africa[4]. Nearly 12.1% of patients with pulmonary TB have genital tuberculosis with an equal chance of sex variation[4].

Genital tuberculosis (GTB) is a relatively rare condition and the most common genital sites of tuberculous infection are the epididymis and prostate. Isolated testicular TB is extremely rare and comprising only 3% of GTB[5]. Ultrasonography (USG) and USG-guided fine-needle aspiration cytology of scrotal swelling may confirm the diagnosis of GTB. Infertility in GTB is a result of obstruction at the terminal portion of the ejaculatory duct, resulting in dilatation of the proximal ductal system, including the vas deferens, preventing seminal vesicle secretions from reaching ejaculation.

Conclusion

This rare case is presented here to develop awareness of the existence of this in our society. This is usually observed in young males and often leads to infertility. Early detection and treatment can save the patient from bad consequences.

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