Case Report

Secondary azospermia due to leprous involvement of testis – a case report

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Abstract

Leprosy is a chronic infective granulomatous disease with clinical features depending upon the host immune response. Leprosy affects cooler areas of body i.e nose, superficial nerve trunks, anterior chamber of eyes and scrotum and testis in male however; leprous involvement of scrotal skin and orchitis with resultant azoospermia has been not reported till date. Many Indian authors have reported sporadic involvement of scrotum and male genitalia in leprosy. however, simultaneous involvement of testes and scrotum leading to male infertility has been sparingly reported. In this paper, we report a case of unmarried male presenting with leprous affection of external genitalia leading to hypergonadotropic hypogonadism with absolute azoospermia. though leprosy is rare on genitalia, one should not neglect examination of genitalia in all male leprosy patients.

Keywords: Azoospermia, hypogonadism, leprosy, male infertility, *Mycobacterium leprae*, orchitis

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INTRODUCTION

Leprosy is a chronic infective granulomatous disease with clinical features depending upon the host immune response.[1] Although leprosy is known to affect cooler areas of body (nose, superficial nerve trunks, anterior chamber of eyes and scrotum and testis in male), however, leprous involvement of scrotal skin and orchitis with resultant azoospermia has been not reported till date. Although many Indian authors (now in grey phase of their lives) have reported sporadic involvement of scrotum and male genitalia in leprosy,[2-4] however, simultaneous involvement of testes and scrotum leading to male infertility has been sparingly reported. In this article, we report a case of unmarried male presenting with leprous affection of external genitalia leading to hypergonadotropic hypogonadism with absolute azoospermia.

CASE REPORT

A 25-year-old unmarried immunocompetent male presented to our outpatient section with the complaint of a single skin to pink-coloured raised lesion on his scrotal wall of 4 months duration. He also reported that recently he had noticed excessive dryness of his both forearms and front of legs. On further enquiry, he revealed that in past 6 months he had recurrent episodes of spontaneous bleeding from nasal orifices.

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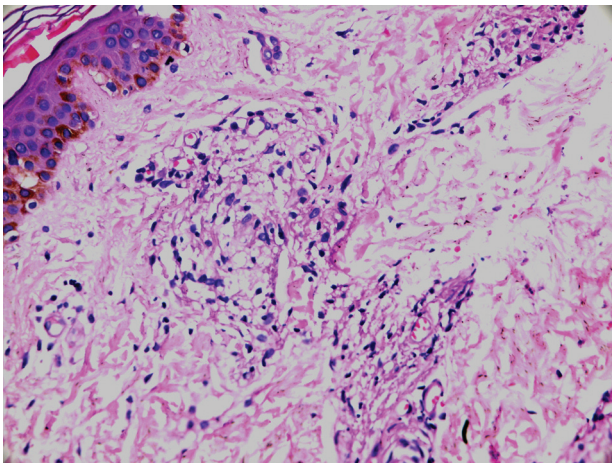

Figure 1: H & E stained section of skin biopsy showing a granuloma of foamy macrophages and hostiocytes.

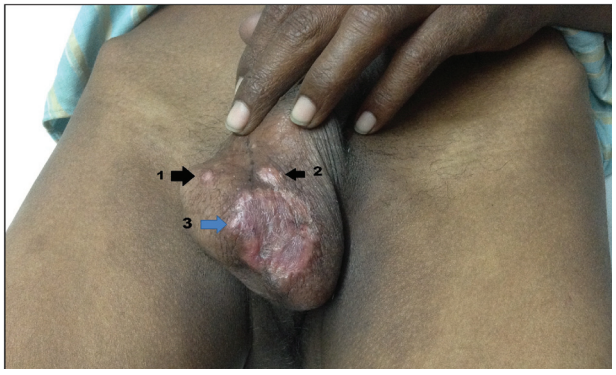

Figure 2: A mother plaque with satellite lesions (Arrowhead 1 & 2 showing satellite lesion and arrowhead 3 showing mother plaque).

Physical examination was unremarkable except for underweight (41 kg). Detailed cutaneous examination revealed multiple hypopigmented normo-esthetic ill-defined macules on his entire trunk. His both external pinnae showed infiltrated nodules along the helix. External genital examination showed a single 4 × 5 cm pink-coloured plaque on the scrotal skin along with three satellite lesions adjoining the mother plaque [Figure 1]. Palpation of both the testes showed firm nodularity, however, there was no tenderness on palpation. Nasal examination showed changes suggestive of atrophic rhinitis. Ultrasound of scrotal sac showed multiple hypo-echoic lesions in right testis and epididymis. Fine-needle aspiration cytology from scrotal skin lesion showed large number of foamy macrophages, giant cells and chronic inflammatory cells. Analysis of semen sample obtained by masturbation showed complete absence of sperms with normal pH (8) but hypovolemic amount (1.0 mL). His general examination, however, failed to show neither loss of secondary sexual characters (gynaecomastia or loss of beard and moustache) nor presence of eunuchoid body phenotype. Laboratory investigations showed hypergonadotropic hypogonadism with abnormally elevated luteinising hormone levels (80.85 mIU/mL; normal levels: 1.5–9.3 mIU/mL) and follicle stimulating hormone (122 mIU/mL; normal levels: 1.5–12.4 mIU/mL) and low normal testosterone levels (299 ng/dL; normal levels: 270–1070 ng/dL). Slit skin smear obtained from standard sites showed an average bacteriological index of 5.05 and morphological index of 80% for acid-fast bacilli.

Skin biopsy obtained from scrotal plaque showed features suggestive of borderline tuberculoid and lepromatous leprosy, respectively [Figure 2]. On the basis of clinicopathological correlation, we made a diagnosis of multi-bacillary Hansen's disease with primary testicular failure and treated him with standard WHO multidrug therapy of three drugs. Endocrinologist consultation was sought for sterility and hypogonadism. As his serum testosterone level were on low normal range and keeping in mind the possible future decline in testicular function, we prescribed him depot testosterone cypionate injection (100 mg/mL) to promote protein metabolism and for maintaining muscle mass. He was also advised sufficient intake of calories and protein. His packed cell volume and prostate-specific antigen levels will be monitored according to current guidelines.

DISCUSSION

Infertility secondary to azoospermia in a young unmarried male is a matter of grave concern and can lead to severe psychosocial distress. Our patient had absolute zero count of sperm and had visited us with great anxiety. A thorough clinical examination and tailor-made investigation enabled us to make a diagnosis of leprosy. Male genitalia are considered as an 'immune zone' and have been described to be immune to the development of lesions in leprosy.[5,6] The major cause of male infertility includes varicocele, genital tract obstruction, testicular failure, crypt-orchidism, idiopathic, toxin exposure, genetic conditions, infections, hormonal dysfunction, immunological con-ditions, ejaculatory/sexual dysfunction, cancer and systemic diseases.[7] Leprosy affecting the male genitalia culminating into azoospermia is an extremely rare complication. Azoospermia secondary to leprosy is hardly documented in English literature. Development of hypogonadism after puberty frequently results in complaints such as diminished libido, erectile dysfunction, infertility, gynaecomastia, impaired masculinisation, changes in body composition, reductions in body and facial hair and osteoporosis.

A study done by Nigam *et al.*[8] on involvement of male gonads in leprosy showed total azoospermia and oligospermia in 35% and 26.6% of study population, respectively. Kumar *et al.*[9] have reported overall incidence of genital lesions in 6.6% of all male cases of leprosy. Similarly, Arora *et al.*[10] have reported genital involvement in 2.6% of the patients in their case series. Most sporadic cases and reported case series occurred in early and mid-1980s, however, past 1 decade has shown a decreasing trend of genital involvement in leprosy. This unfortunate event could be explained by either doctors cursorily omitting to examine the genitalia as a routine or reluctance on the part of patient to show the genitalia. To conclude, authors wish to express that although leprosy is rare on genitalia, one should not neglect examination of genitalia in all male leprosy patients.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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