Case Report

Papulonecrotic tuberculid of glans penis: A common disease at an uncommon site

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Abstract

A 65-year-old man presented with multiple asymptomatic papulo-pustules and ulcers over glans penis since last 1 year. The lesions used to resolve spontaneously in a few days with scarring. The clinical features and histopathology were suggestive of papulonecrotic tuberculids of the glans penis.

Key words: Glans penis, papulonecrotic tuberculid, varioliform scarring on glans

INTRODUCTION

Although tuberculosis (TB) is a common infection in India, tuberculids of the penis are rarely reported. Here we are reporting a case of papulonecrotic tuberculid on glans penis in a patient without any primary tuberculous focus.

CASE REPORT

A 65-year-old man presented with recurrent crops of multiple asymptomatic papulopustules over the glans penis since last 1 year. The lesions used to resolve spontaneously in a few days with scarring. He was treated with systemic antibiotics and various topical applications before referral. There was no history of trauma, drug intake, fever, cough, and constitutional symptoms. There was no personal or family history of TB. The patient denied history of unprotected sexual exposure. He denied any history of genital lesions or discharge in his wife. The patient was never vaccinated with Bacillus Calmette-Guérin (BCG).

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Examination revealed multiple, nonindurated, well-defined ulcers of size 0.5 cm × 0.5 cm over the ventral aspect of glans. Multiple irregular depressed scars were present around the ulcers [Figure 1]. The ulcers were nontender on touch and there was no bleeding on palpation of the ulcers. There was no clinical evidence of epididymo-orchitis. There was no significant inguinal lymphadenopathy. Mucocutaneous, appendageal and systemic examinations were normal. Patient's systemic examination was unremarkable.

All hematological and biochemical investigations were normal except for highly raised erythrocyte sedimentation rate (50 mm in the 1st h). Tuberculin (Mantoux) test was strongly positive (30 mm × 20 mm). Ziehl-Neelsen stain of the pus did not demonstrate any acid fast bacilli (AFB). X-ray chest did not reveal any radiological evidence of pulmonary TB. Urine sediment examinations for AFB and urine culture were noncontributory. Radiological and ultrasound evaluation of the genitourinary system was normal. Human immunodeficiency virus (HIV) antibodies test and Venereal Disease Research Laboratory test (VDRL) test were nonreactive. Systemic evaluation for any focus of TB was unremarkable.

Biopsy from the edge of the ulcer (glans penis) showed dermoepidermal necrosis surrounded by a

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poorly formed granulomatous infiltrate composed of lymphocytes and macrophages [Figure 2]. Ziehl-Neelsen stain for AFB was negative. Tissue cultures for bacteria and fungus were negative. We were unable to perform tissue polymerase chain reaction (PCR) due to financial constraints.

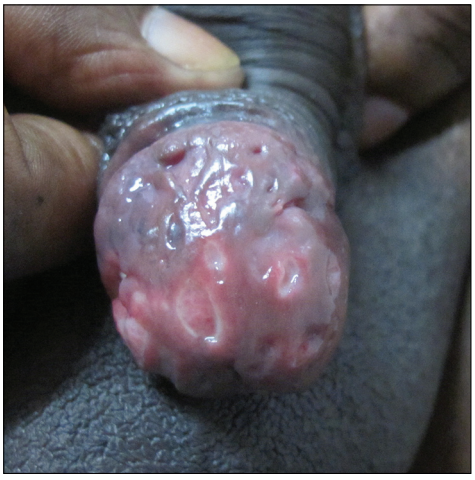

Figure 1: Multiple, nonindurated, well-defined ulcers of size 0.5 cm × 0.5 cm over the ventral aspect of glans. Note irregular depressed scars surrounding the ulcers

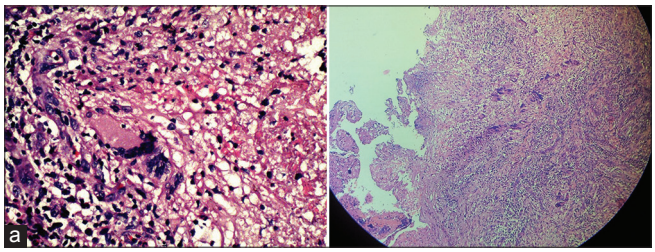

Figure 2: Histopathology shows dermoepidermal necrosis surrounded by granulomatous infiltrate composed of lymphocytes, macrophages, and a Langhans giant cell (a) (H and E, ×40), Histopathology showing necrosis (b) (H and E, ×4)

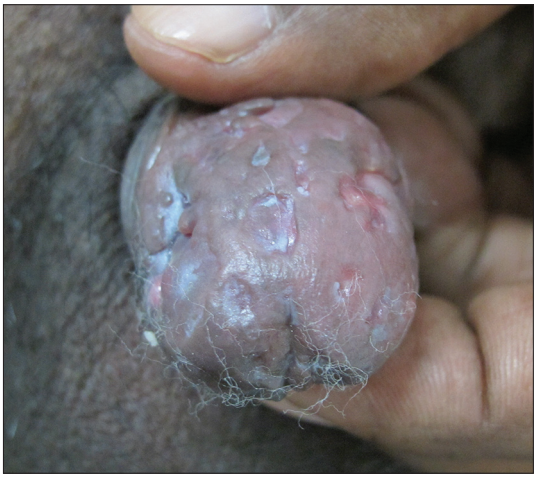

Figure 3: Posttreatment photographs showing varioliform scars over glans penis

He was treated with antituberculous treatment (ATT) for a period of 6 months. Four weeks after the initiation of therapy, the existing lesions over the glans had healed [Figure 3]. Further follow-up showed improvement in the condition and no recurrence.

DISCUSSION

Papulonecrotic tuberculids (PNT) are characterized by recurrent eruptions of asymptomatic, dusky red papules, which ulcerate and crust, and heal after a few weeks with varioliform scarring.[1,2] Tuberculids are hypersensitivity reactions to *Mycobacterium tuberculosis* or its products in individuals with good immunity. The formation of tuberculids is explained by the haematogenous dissemination to the skin of mycobacterial antigens from an internal tuberculous focus in a hypersensitive patient.[3]

The tuberculids may present in different morphological forms but, *M. tuberculosis* is not usually identified by AFB stains, culture, or PCR. However, some recent authors have found mycobacterial deoxyribonucleic acid (DNA) in erythema induratum and PNT lesions using PCR.[3]

Penile tuberculids is an extremely rare condition with majority of cases reported from Japan and South Africa. A series of 121 Japanese patients with papulonecrotic tuberculid principally involving the glans was reported by Nishigori *et al*.[4] They referred to this condition as "penis tuberculid. The clinical features of tuberculids of the penis have been reported as ulceration or scars.[5] As described in other reports, the characteristic irregular depressed scars are seen only in PNT on the glans penis.[3,6] In Indian literature, Padmavathy *et al*., and Vijaikumar *et al*., have reported PNT on glans.[2,6]

Differential diagnosis of the PNT on glans includes syphilis, recurrent herpes simplex, erythroplasia, drug eruption, balanitis, Behçet's disease, and squamous cell carcinoma.[6,7]

The histological findings may be sometimes inconclusive, showing a nonspecific or tuberculoid picture.[7] The histological findings may vary from acute leukocytoclastic vasculitis in early lesions to mature granuloma formation in older ones. A response to ATT can confirm the diagnosis of cutaneous TB,[8] as in our case.

A correct diagnosis of PNT on glans can be done on basis of characteristic irregular depressed scars, histopathological finding of tuberculous granuloma, and a good response to ATT; however it may remain

undiagnosed for years together due to lack of knowledge about this entity in practitioners.[5]

Though most cases of PNT on glans were not associated with systemic TB, there are reports of their associations; and hence, the patient should be thoroughly investigated for underlying active systemic TB.

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