

Pseudoepitheliomatous keratotic and micaceous balanitis

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Abstract

Many premalignant and malignant lesions affect the genitalia of elderly men. These include conditions like erythroplasia of Queyret, giant condyloma acuminata, verrucous carcinoma, invasive squamous cell carcinoma (SCC), which are relatively common. We report a case of a 65-year-old male with pseudoepitheliomatous keratotic and micaceous balanitis which is a rare penile condition affecting the elderly. It is considered as a distinct clinical entity by some, while others consider it as a condition that overlaps with verrucous carcinoma. It can also be considered a premalignant condition, as progression to invasive SCC has been noted.

Key words: Pseudoepitheliomatous hyperplasia, pseudoepitheliomatous keratotic and micaceous balanitis, verrucous carcinoma

INTRODUCTION

Pseudoepitheliomatous keratotic and micaceous balanitis (PKMB) is a rare penile condition affecting the elderly uncircumcised men. It presents as a hyperkeratotic plaque over the glans penis, with an overlying thick micaceous scale. The condition is generally asymptomatic but fissuring, maceration, and irritation may be associated. The exact etiopathogenesis of PKMB is unclear. Though it is described as a distinct entity, there is considerable overlap with verrucous carcinoma. The clinical course of PKMB is chronic and associated with recurrences after treatment.

CASE REPORT

A 65-year-old male presented with a chronic nonhealing lesion over his penis since 6 months. It

was associated with occasional itching, irritation, and burning sensation following micturition. There was no history of bleeding either spontaneously or following minimal trauma. Clinical examination, after retracting the prepuce, revealed a well-defined hyperkeratotic plaque with thick adherent micaceous scales surrounded by a slight erythematous halo [Figure 1]. There was no regional lymphadenopathy. Based on these findings, biopsy of the lesion was performed under local anesthesia with clinical differential diagnoses of verrucous/squamous cell carcinoma (SCC) and lichen sclerosus in mind. Histopathology of the lesion revealed epidermal hyperkeratosis, parakeratosis, acanthosis, and papillomatosis (features of pseudoepitheliomatous hyperplasia) with perivascular mononuclear cell infiltrate in the dermis [Figure 2]. There were no cellular dysplasia or frank neoplastic changes and the basement membrane was intact. Based on these clinical and histopathological findings, a diagnosis of PKMB was made. Patient is on treatment with topical 5-fluorouracil (5-FU; 5%) cream once-a-day [Figure 3], and is being regularly followed-up.

DISCUSSION

PKMB is a rare penile condition affecting the elderly uncircumcised men.^[1,2] Lortat-Jacob and Civatte^[3]

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first described PKMB in 1960. PKMB presents as a thick hyperkeratotic plaque with thick adherent micaceous scaling. Although irritation, burning sensation, fissuring or maceration may be associated, PKMB is generally asymptomatic. Thickness of the plaque may sometimes be so much so that the lesion appears as a penile horn.^[1,4] Hyperkeratotic plaques involving perimeatal skin may cause multiple urinary streams on micturition giving an appearance of a “watering-can penis”.^[5]

The exact etiopathogenesis of PKMB is unclear. It is proposed to be a form of pyodermatitis or pseudoepitheliomatous response to infection.^[6] Though PKMB is described as a distinct entity, there is considerable overlap with verrucous carcinoma.^[7,8] It is also considered to be a variant of lichen sclerosus.^[9] Progression into invasive SCC has also been noted.^[1] Kronic *et al.*,^[10] theorized that PKMB evolves into four stages; (a) initial plaque stage, (b) late tumor stage, (c) verrucous carcinoma, and (d) transformation to SCC and invasion.

Histopathological examination demonstrates hyperkeratosis, parakeratosis, acanthosis, elongated rete ridges, and mild lower epidermal dysplasia with a nonspecific dermal inflammatory infiltrate composed of eosinophils and lymphocytes.^[4] Differential diagnoses include penile horn, penile psoriasis (early plaque stage), giant condyloma, verrucous carcinoma, erythroplasia of Queyrat, SCC, and keratoacanthoma. PKMB and penile horn, as premalignant penile lesions, may be histologically classified as one of the squamous hyperplastic lesions that stain negatively for immunohistochemical markers of high grade penile intraepithelial lesions. Chaux *et al.*,^[11] analyzed 74 penile intraepithelial lesions using a triple immunohistochemical panel (p16/p53/Ki-67) and found a distinctive immunohistochemical profile for associated and precursor penile epithelial lesions. In their study, all patients with squamous hyperplasia were p16 and p53 negative, and patients with high grade penile intraepithelial neoplasia (basaloid and warty patterns) were consistently p16 and p53 positive, and variably Ki-67 positive. In a study by Cubilla *et al.*,^[12] the squamous hyperplastic lesions were negative for p16^{INK4a}, which serves as a surrogate for high risk human papillomavirus infection. Based on these evidences, PKMB may be considered as lesion with low-grade malignant potential, prognostically.

Treatment options include topical measures like 5-FU, podophyllin resin, steroids; physical measures like cryotherapy, radiotherapy; and surgical excision.

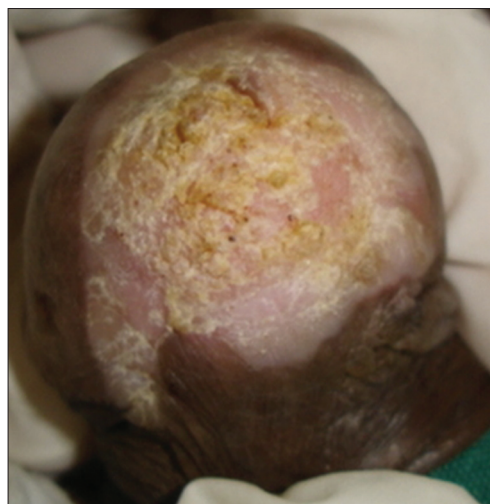


Figure 1: Well-defined hyperkeratotic plaque with thick adherent micaceous scales

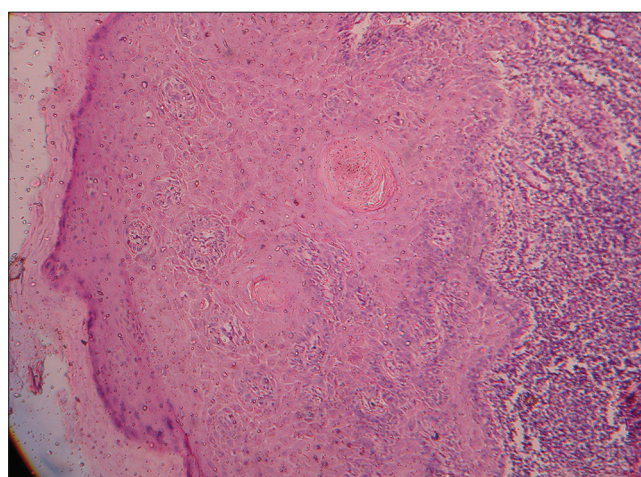


Figure 2: Hyperkeratosis, parakeratosis, acanthosis, and papillomatosis with fusion of some of the adjacent elongated papillae and perivascular mononuclear infiltrate in dermis. No cellular atypia seen (H and E, ×10)



Figure 3: After 3 weeks of treatment with topical 5% 5-fluorouracil

The choice of treatment is generally guided by the stage of the disease. The clinical course of PKMB is chronic and associated with recurrences despite initial response to treatment which, most of the times, is partial. In case of clinical and histological suspicion (based on clinical observation and repeated biopsies, if needed) of invasive neoplasia, aggressive treatment is warranted.^[10,13]

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