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CASE REPORT

A rare case report of pseudoepitheliomatous keratotic and micaceous balanitis

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Abstract

Pseudoepitheliomatous keratotic and micaceous balanitis (PKMB) is a rare chronic penile dermatosis that typically affects elderly men and carries a potential risk of malignant transformation. We report a case of a 59-year-old previously healthy male who presented with a 3-year history of a slowly progressive, mildly painful growth on the glans penis. He had a history of balanitis for which circumcision had been performed. Clinical examination revealed a well-defined hyperkeratotic plaque with adherent hyperkeratotic scaling over the glans penis, giving a horn-like appearance, without ulceration or inguinal lymphadenopathy.

Histopathological examination demonstrated marked hyperkeratosis, parakeratosis, and pseudoepitheliomatous hyperplasia of the epidermis, negative for dysplasia and malignancy. The patient is currently receiving treatment with fortnightly cryotherapy and three times per week application of 5-Fluorouracil (5-FU). This case highlights the importance of early recognition and histopathological confirmation of this rare premalignant condition to guide appropriate management and prevent progression to malignancy.

Keywords: pseudoepitheliomatous keratotic and micaceous balanitis; penile dermatosis; hyperkeratotic plaque; premalignant penile lesion; glans penis.

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Introduction

Pseudoepitheliomatous keratotic and micaceous balanitis (PKMB) is a rare chronic penile dermatosis that typically affects elderly men and is characterized by silvery white plaque with mica-like crust. Ulcerations, cracking, and fissuring have been noted in a few instances. In some cases, the condition may progress to verrucous carcinoma or squamous cell carcinoma.[1]

Case Presentation

A 59-year-old male with no known comorbidities presented to the dermatology clinic with a history of a slowly progressive growth over the glans penis for a 3-year duration. The lesion was associated with mild pain, particularly on friction and micturition. There was no history of bleeding, discharge, pruritus, or constitutional symptoms such as fever or weight loss.

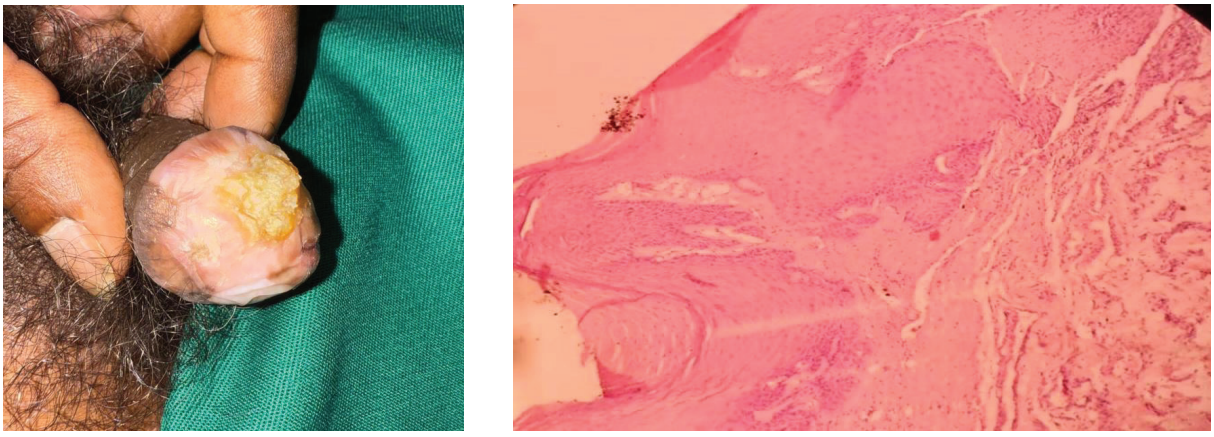
The patient denied any history of sexually transmitted infections, high-risk sexual behaviour, or similar lesions elsewhere on the body.

His past medical history was notable for balanitis and phimosis in 1990, for which he underwent circumcision. Following circumcision, he remained asymptomatic until the onset of the current lesion. There was no history of diabetes mellitus, immunosuppression, or chronic dermatological diseases.

Examination revealed a well-defined hyperkeratotic plaque over the glans penis with thickened, adherent keratotic scaling, giving a mica-like (horn-like) appearance (Figure 1A). There were no ulcerations, bleeding, or induration noted on palpation. No inguinal lymphadenopathy was detected. Systemic examination was unremarkable.

Diagnosis and management: A skin biopsy from the lesion was performed, and Histopathology revealed marked hyperkeratosis, parakeratosis, and pseudoepitheliomatous hyperplasia of the epidermis, negative for dysplasia and malignancy (Figure 1B). Based on the clinical presentation and histopathological findings, a diagnosis of pseudoepitheliomatous keratotic and micaceous balanitis (PKMB) was established.

The patient was initiated on fortnightly cryotherapy in combination with topical 5-Fluorouracil applied three times weekly. During the course of therapy, the patient developed a mild localized burning sensation at the application site, which was transient and did not warrant discontinuation of treatment. Clinically, there was appreciable symptomatic improvement accompanied by a mild reduction in lesion size. The patient is currently continuing to receive the same treatment regimen with ongoing follow-up.



A B

Figure 1. (A) Well-defined hyperkeratotic plaque over the glans penis with thick adherent keratotic scaling giving a mica-like appearance. (B) Histopathology showing marked hyperkeratosis, parakeratosis, and pseudoepitheliomatous hyperplasia of the epidermis without dysplasia or malignancy (H&E, ×100).

Discussion

PKMB was initially reported by Lortat-Jacob and Civatte in 1961 in the French medical literature. Since then, only a limited number of cases have been documented. It is characterized by silvery-white plaques with mica-like crusts on the glans penis.[1,2,3] It is commonly seen in elderly patients, usually in the sixth decade. It is usually asymptomatic, but fissuring, ulceration, irritation, and burning sensation may be associated. Initially, it was considered a benign condition, but now it is considered a premalignant condition.[2,3]

The etiology of PKMB remains unclear but is generally thought to be a pseudoepitheliomatous response to chronic irritation or infection, with the potential for malignant transformation.[3] The pathogenesis of PKMB occurs in four stages: (a) Initial plaque stage, (b) late tumor stage, (c) verrucous carcinoma, and (d) transformation to squamous cell carcinoma and invasion. As in our case, early recognition of the condition and histopathological analysis are critical for guiding treatment and minimizing the risk of malignant transformation.[3]

Histopathological analysis typically reveals hyperkeratosis, parakeratosis, acanthosis, elongation of the rete ridges, and mild dysplasia in the lower epidermis, along with a nonspecific inflammatory infiltrate in the dermis composed of eosinophils and lymphocytes. The differential diagnosis includes giant condyloma, psoriasis, squamous cell carcinoma, keratoacanthoma, and erythroplasia of Queyrat.[3,4]

Treatment with topical 5-fluorouracil, radiotherapy, cryotherapy, and CO2 laser has been used when there is no histological evidence of malignancy. Topical 5-fluorouracil is considered the preferred treatment for the initial plaque stage. Long-term surveillance with post-treatment biopsies is recommended during the follow-up period. The tumor stage of PKMB, showing features of dysplasia and invasion, is resistant to topical treatment. Wide local surgical excision, resurfacing, and glansectomy with split-thickness skin graft are recommended depending on the progression of the lesion in advanced cases having histological features of cellular atypia.[3,4,5]

Conclusion

This case highlights a rare premalignant penile dermatosis presenting as a chronic hyperkeratotic lesion on the glans penis. Early recognition and histopathological confirmation are essential to establish the diagnosis and prevent potential malignant transformation.

Ethics statement

Written informed consent was obtained from the patient for publication of this case report.

Author contributions

FR drafted the manuscript. All authors reviewed and edited the content.

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