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STUDY ON OUTCOMES OF A RARE PREMALIGNANT PENILE CONDITION – PSEUDOEPITHILOMATOUS, KERATOTIC, MICACEOUS BALANOPOSTHITIS – A CASE SERIES

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ABSTRACT

Background: Pseudoepithelomatous keratotic micaceous balanoposthitis (PEKMB) is a rare, chronic inflammatory disorder of the male genitalia, primarily affecting the glans and prepuce with characteristic scaly, crusted plaques. Though uncommon, it carries premalignant potential and is often underdiagnosed **Objective:** To analyze the clinical presentation, histopathology, and treatment outcomes of PEKMB through a monocentric case series to raise awareness of this rare premalignant condition **Methods:** A retrospective case series was conducted at a tertiary care center between December 2020 and December 2024. Seven patients diagnosed with PEKMB were studied for demographic data, clinical features, comorbidities, histopathology, HPV association, presence of lichen sclerosis, treatment modalities, and follow-up outcomes including malignant transformation **Results:** The majority of patients were diabetic males aged 45–59 years. The average delay from symptom onset to consultation was 3.4 years. Histopathology confirmed hyperkeratosis and pseudoepitheliomatous hyperplasia. One patient progressed to squamous cell carcinoma. Early-stage cases responded well to topical steroids, while others required surgical intervention including circumcision or lesion excision. One patient underwent partial penectomy following malignant transformation due to delayed follow-up **Conclusion :** PEKMB, though rare, is a clinically significant premalignant condition with favorable outcomes if identified early. Clinicians should include it in the differential diagnosis of chronic penile lesions, especially in patients with diabetes or poor hygiene. Early diagnosis and appropriate treatment can prevent progression to malignancy.

KEYWORDS

Pseudoepithelomatous Keratotic Micaceous Balanoposthitis, Penile Carcinoma, Premalignant Lesion, Circumcision, Topical Steroids, Balanoposthitis

INTRODUCTION

Pseudoepithelomatous keratotic micaceous balanoposthitis (PEKMB) is a rare inflammatory disorder of the male genitalia. It is characterized by a chronic inflammatory condition with the formation of micaceous (scaly, crusted) plaques on the glans and prepuce of the penis and histological hyperkeratosis and pseudoepitheliomatous hyperplasia. The exact cause is not well understood, but it may be related to fungal infections, chronic irritants, or inflammatory conditions such as psoriasis or lichen planus. It is also associated with poor hygiene, diabetes, or immunocompromised states. PEKMB presents as thick, greyish-white scales or plaques on the penis, especially in the glans and foreskin area. Symptoms may include itching, burning, and discomfort.

Aim

- To collect demographic data related to this rare condition
- To better understand the etiology of the disease and associated comorbidities
- To learn about the treatment options available for this condition
- To follow up cases and to deduce outcomes of the treatment

METHODOLOGY

Study Design

This is a monocentric case series analysis done on cases diagnosed with PEKMB during the period of December 2020 to December 2024. Data were collected on demographics, clinical presentation, histological features, presence of human papilloma virus (HPV), history of lichen sclerosis, treatment of PEKMB and subsequent response, and presence or development of squamous cell carcinoma (SCC) during follow-up

Study Population

Location: Patients were recruited from Tagore Medical College & Hospital

Sample Size: 7 patients with confirmed PEKMB via biopsy on arrival or during the course of the follow up of the study were enrolled.

Patient Demographics:

- Number of cases: 7
- Ages: 45 to 59 years of age

Clinical Features:

- Majority presented with greyish, scaly plaques, localized to the glans and foreskin.
- Associated symptoms: itching, burning, discomfort.

Diagnosis:

- Histopathological confirmation: hyperkeratosis, acanthosis, and micaceous plaques with pseudoepitheliomatous hyperplasia
- Fungal cultures: Excluded

Treatment:

- Topical therapies: 0.05 % Betamethasone application
- Surgical options: Circumcision/ Local excision of lesion as suggested, also penectomy
- Outcome: Recovery or healing or improved quality of life

RESULTS

- Patients more commonly presented in the age groups late 40's to 60's
- Five out of seven cases had co morbidities mainly Diabetes
- 3.4 years is the mean time period since onset of symptoms and first consultation
- Cellular atypia (malignant: squamous cell carcinoma) was noted in one/seven cases on follow up
- Patients with early lesions responded well and recovered with:
  Medical - Topical steroids
  Surgical – Circumcision and excision of the lesion
- Presentation and outcomes can be divided into 3 categories
  Category A: Lesions that needed topical steroid application alone (Case 2 and Case 6)
  Category B: Lesions that needed Circumcision/Excision followed by topical application (Case 1, 3, 4, 7)
  Category C: Lesion that on follow up developed Carcinoma (Case 5)

CLINICAL DISCUSSION

a. The exact pathophysiology of this disease is still unclear but is believed to be due to inflammatory response to chronic irritation or infection

b. PEKMB can mimic conditions like psoriasis, lichen planus, candidiasis and therefore it may be difficult to diagnose without

biopsy and pathology

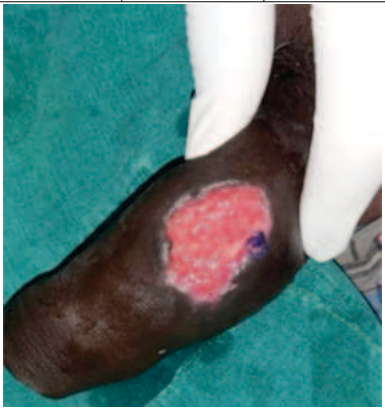
c. The pathogenesis of PEKMB occurs in four stages: (a) initial plaque stage, (b) late tumor stage, (c) verrucous carcinoma, and (d) transformation to squamous cell carcinoma and invasion. Treatment is based on the stage of the lesion, with the initial plaque stage requiring topical therapy and the advanced stages necessitating more aggressive therapy

d. Topical steroids and surgery can be useful in some cases to completely alleviate the symptoms but a watchful eye is necessary to follow up these patients pertaining to high risk of conversion to malignancy

e. Prognosis is really good if managed in early stages of the disease

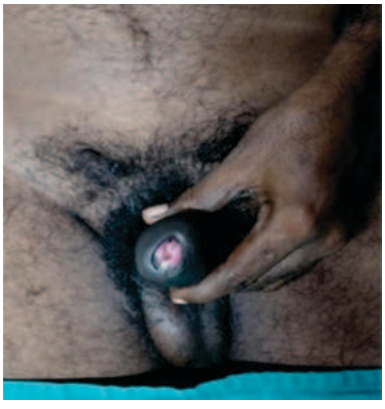
Case	Age	History since onset	Co morbidities	Clinical Features at presentation	Symptoms	Management	Histo pathological findings	Outcomes and follow up
Case 1	48 yr	4 yrs	Diabetes, HTN	Leukoplakia with scaly lesions over the glans	Itching and burning while passing urine	Circumcision followed by local application of 0.05% betamethasone	Hyperkeratotic lesions with acanthosis	Recovery with no recurrence
Case 2	56 yr	8 yrs	Diabetes	Grey plaque over the glans	Itching and pain	Topical steroids application	Hyperkeratosis with lymphocyte infiltration	Topical steroids for alleviation of symptoms
Case 3	51 yr	3 yr	Diabetes, COPD	Grey scaly 2*1 cm lesion over the glans	Itching and phimosis	Circumcision with complete excision of the lesion	Pseudoepithelisation with acanthotic cells	Recovery
Case 4	46 yr	5 yr	Diabetes	Dry scaly ulcer over the shaft of penis	Itching with increase in size of lesion	Excision of lesion and topical steroids application	Hyperkeratosis present with focal fibrosis	Healing ulcer

Case	Age	History since onset	Co morbidities	Clinical Features at presentation	Symptoms	Management	Histo pathological findings	Outcomes and follow up
Case 5	48 yr	3 months Follow up 1 ½ yrs later	No comorbidities	Phimosis, swelling in glans with multiple discharging sinus	Discharge, scaly lesion in the glans after circumcision	Circumcision, Antibiotic therapy, Partial Penectomy with urethroplasty	Hyperkeratotic pseudoepitheliomatous hyperplasia with koilocytes	Able to pass urine
Case 6	59 yr	7 months	Diabetes, HTN, COPD	Ulcer over the ventral aspect corona region post circumcision	Itching with non healing ulcer	Topical steroid application	Hyperkeatotic lesion with acanthosis of cells	Patient recovered completely
Case 7	47 yr	2 ½ years	No comorbidities	Greyish white plaque over the ventral aspect of glans	Itching with phimosis	Circumcision followed by topical steroids and antihistamines	Atrophic and hypertrophic sclerosis with vacuolar degeneration of basal layer	Lichen planus symptomatically better



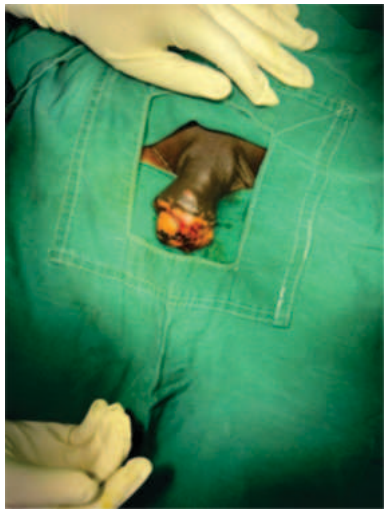
(Figure_1) Lesion Over Shaft of Penis.

Scaly lesion over shaft of penis that was chronic non healing that shows improvement on use of topical steroids.



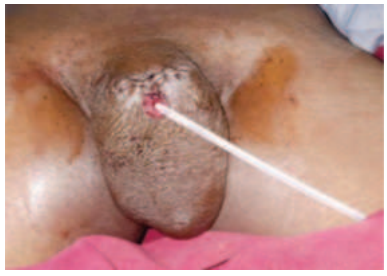
(Figure_2) Phimosis with Scaly Lesion Over the Glans.

Patient after circumcision was diagnosed to have PEKMB.



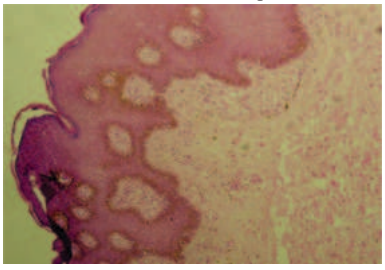
(Figure_3) Glans Penis with Multiple Discharging Sinus.

Patient after diagnosis of PEKMB failed to follow up who now presented with Squamous cell carcinoma of the penis.



(Figure_4) Partial Penectomy with Urethroplasty.

Done was management for Carcinoma Penis who was earlier diagnosed as PEKMB but failed to follow up.



(Figure_5) Pseudoepithelomatous Keratotic Hyperplasia.

Histopathological findings in PEKMB.

CONCLUSION

- Pseudoepithelomatous micaceous balanoposthitis is a rare but manageable condition, with a high success rate in treatment when diagnosed early.
- Clinicians should consider PEKMB in the differential diagnosis of scaly penile lesions, especially in patients with comorbidities or poor hygiene.
- Further studies are needed to refine treatment protocols and explore the long-term outcomes of different therapeutic approaches.

Statements

- None of the authors have any conflict of interest to the above-mentioned study.
- The consent was obtained of all 7 patients for publication of data and use of images.
- Data was compiled after the study concluded with the Histo-pathological reports hence ethical committee clearance in view of the study was waved off and registration of the study was not done.

REFERENCES

1. Lortat-Jacob E, Civatte J. Micaceous and keratosic pseudo-epitheliomatous balantis. Bull Soc Fr Dermatol Syphiligr.1961;68:164–7.
2. Reed SI, Abell E. Pseudoepitheliomatous, keratotic and micaceous balanitis. Arch Dermatol. 1981;117:435–7.
3. Pai VV, Hanumanthayya K, Naveen KN, Rao R, Dinesh U. Pseudoepitheliomatous, keratotic, and micaceous balanitis presenting as cutaneous horn in an adult male. Indian J Dermatol Venereol Leprol. 2010;76:547–9. doi: 10.4103/0378-6323.69087.
4. Subudhi CL, Singh PC. Pseudoepitheliomatous, keratotic and micaceous balanitis producing nail-like lesion on the glans penis. Indian J Dermatol Venereol Leprol. 1999;65:75–7.
5. Rook A, Wilkinson DS, Ebling FJ, Champion RH, Burton JL. 4th ed. Boston, Mass: Blackwell Scientific Publications Inc; 1986. Textbook of Dermatology; p. 2188.