RESEARCH PAPER

Localized Axillary Porokeratosis in an Elderly Male: A Rare Flexural Presentation

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Abstract

Porokeratosis is a clonal disorder of keratinization characterized clinically by annular plaques with a raised keratotic ridge and histologically by the presence of a coronoid lamella. Flexural involvement is uncommon and may mimic other intertriginous dermatoses, leading to diagnostic challenges. We report a 72-year-old male presenting with asymptomatic hyperpigmented plaques over bilateral axillae of four months' duration. Dermoscopy revealed a peripheral whitish keratotic rim corresponding to the coronoid lamella. Histopathological examination demonstrated hyperkeratosis with vertically oriented parakeratosis forming a coronoid lamella, along with focal hypogranulosis. This case highlights a rare intertriginous presentation of porokeratosis and emphasizes the importance of clinicopathological correlation for accurate diagnosis. Recognition is essential due to the potential risk of malignant transformation.

Keywords: Porokeratosis, Coronoid lamella, Axilla, Flexural dermatosis, Dermoscopy

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Introduction

Porokeratosis is a disorder of epidermal keratinization first described by Mibelli in 1893. It is characterized by clonal proliferation of atypical keratinocytes, resulting in distinctive clinical and histopathological features. The hallmark lesion presents as an annular plaque with an atrophic center and a raised hyperkeratotic border, which corresponds histologically to the coronoid lamella—a column of parakeratotic cells overlying a focal area of hypogranulosis.

Several clinical variants of porokeratosis have been described, including porokeratosis of Mibelli, disseminated superficial actinic porokeratosis (DSAP), linear porokeratosis, punctate porokeratosis, and palmoplantar variants. These variants differ in their distribution, age of onset, and associated risk factors. While most forms commonly affect sun-exposed areas, involvement of flexural or intertriginous regions is rare and often underrecognized.

Flexural porokeratosis poses a diagnostic challenge due to its resemblance to more common conditions such as intertrigo, dermatophytosis, candidiasis, and inverse psoriasis. Dermoscopy and histopathology play a crucial role in establishing the diagnosis. Herein, we report a rare case of localized porokeratosis confined to the bilateral axillae in an elderly male.

Case Report

A 72-year-old male presented with multiple asymptomatic dark-colored lesions over both axillae for a duration of four months. There was no history of itching, pain, discharge, trauma, or preceding inflammation. The patient denied any similar lesions in the past or family history of similar conditions.

His medical history was significant for type 2 diabetes mellitus and hypertension, both well controlled on regular medication. There was no history of immunosuppression, prolonged sun exposure to the affected area, or topical application prior to onset.

Clinical Findings

Cutaneous examination revealed multiple well-defined hyperpigmented plaques involving both axillae. The lesions exhibited raised, thread-like keratotic borders with relatively flattened and slightly atrophic centers. No erythema, scaling, or maceration was noted. Examination of mucosae, scalp, palms, and soles was unremarkable.

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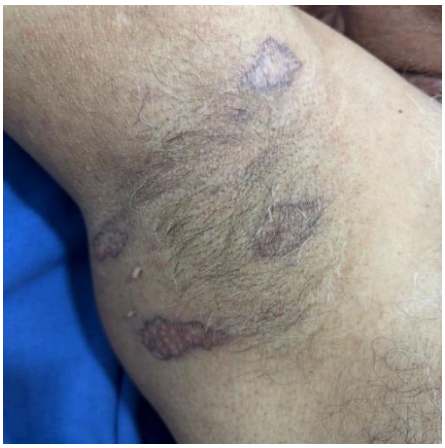

Figure 1: Multiple hyperpigmented plaques with raised keratotic borders over bilateral axillae

Dermoscopy

Dermoscopy demonstrated a characteristic peripheral whitish hyperkeratotic rim, often described as a "white track," surrounding a central grayish-brown structureless area. This dermoscopic finding corresponds to the coronoid lamella and is considered highly suggestive of porokeratosis.

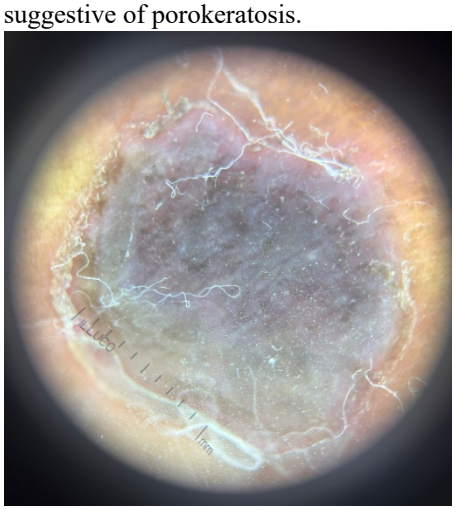

Figure 2: Dermoscopy showing peripheral whitish keratin rim ("white track") with central greyish structureless area

Histopathology

Histopathological examination of a representative lesion showed:

- Compact hyperkeratosis
- A vertically oriented column of parakeratosis forming a coronoid lamella
- Underlying focal hypogranulosis
- Mild irregular acanthosis
- Sparse perivascular mononuclear inflammatory infiltrate in the upper dermis

These findings confirmed the diagnosis of porokeratosis.

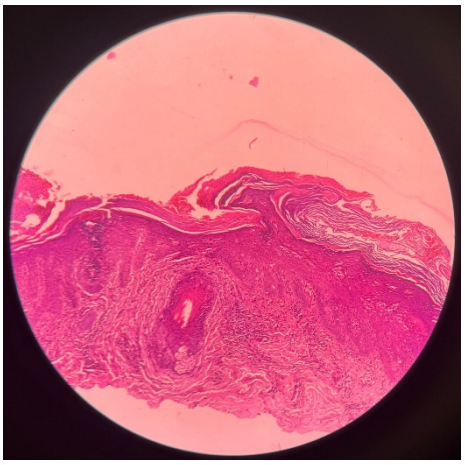

Figure3: Histopathology showing coronoid type parakeratosis with underlying hypogranulosis Based on clinical, dermoscopic, and histopathological correlation, a diagnosis of localized porokeratosis involving bilateral axillae was established.

Discussion

Porokeratosis is considered a disorder of clonal keratinocyte proliferation, with both genetic and environmental factors implicated in its pathogenesis. Mutations in genes involved in the mevalonate pathway, particularly the *MVK* gene, have been identified in certain variants such as DSAP. Additional contributing factors include ultraviolet radiation, immunosuppression, organ transplantation, and chronic skin irritation.

Flexural Porokeratosis

Flexural involvement is rare and has been sparsely reported in the literature. The axillae, groin, inframammary folds, and genital regions are potential but uncommon sites. In these areas, lesions may lack the classical annular morphology, leading to frequent misdiagnosis.

The differential diagnosis in flexural regions includes:

- Intertrigo
- Dermatophytosis
- Candidiasis
- Inverse psoriasis
- Acanthosis nigricans

Recognition of the raised keratotic ridge and use of dermoscopy can aid in differentiation. The "white track" sign seen on dermoscopy corresponds to the coronoid lamella and is a key diagnostic feature.

Histopathological Correlation

The coronoid lamella remains the defining histopathological hallmark. It represents disordered keratinization and abnormal epidermal differentiation. The presence of hypogranulosis beneath the lamella and dyskeratotic keratinocytes further supports the diagnosis.

Risk of Malignant Transformation

Porokeratosis is considered a premalignant condition. Malignant transformation, most commonly to squamous cell carcinoma and less frequently to basal cell carcinoma, has been reported in approximately 7–10% of cases. The risk is higher in:

- Long-standing lesions
- Linear porokeratosis
- Large or hypertrophic variants

Although localized flexural porokeratosis is rare, vigilance is warranted. Regular follow-up and patient education regarding warning signs such as ulceration, rapid growth, or bleeding are essential.

Management

Treatment options include:

- Topical therapies (5-fluorouracil, imiquimod, retinoids)
- Cryotherapy
- Laser ablation
- Surgical excision in selected cases

However, response to treatment is often variable, and recurrence may occur.

Conclusion

This case highlights an uncommon presentation of localized porokeratosis confined to the bilateral axillae in an elderly male. The rarity of flexural involvement often leads to misdiagnosis. Dermoscopy and histopathology are indispensable tools for accurate diagnosis. Given the potential for malignant transformation, early recognition and regular follow-up are essential.

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