

# A rare case of porokeratotic eccrine ostial and dermal duct nevus

Moin Ahmad Siddiqui, Faizi Karim, Fariz Sarshar

Department of Dermatology, Integral Institute of Medical Sciences and research, IIMSR, Lucknow, India.

**Abstract** Introduction: Porokeratotic eccrine ostial and dermal duct nevus (PEODDN) is a rare and benign cutaneous condition, distinguished by numerous punctate pits and keratotic papules, usually present over palms and soles. A young female of age 25 years came to the out patient department with asymptomatic rough papules over her right palm and sole, for the past 3 years. Clinical examination showed keratotic papules, distributed over right palm's radial aspect, just below and in front of base of thumb. Similar lesions were found on the inner side of right foot. The histopathological features were typical of PEODDN. PEODDN, also known as comedo nevus of palm, is characterized by pits which are keratotic and grouped, usually seen over palms and soles. The onset can be at birth or early adulthood. The lesions are mostly asymptomatic with very few treatment options described in literature. It is an uncommon and cosmetically disfiguring condition with only a few case reports till date.

**Key words**

Porokeratosis; Nevus; Eccrine; Ostia.

## Introduction

Porokeratotic eccrine ostial and dermal duct nevus (PEODDN) is an uncommon dermatological condition and a rare variant of porokeratosis. Abell and Reed were the first to describe it as an eccrine hamartoma.<sup>1</sup> It is distinguished by multiple keratotic papules and numerous punctate pits that are distributed in a linear fashion. The histopathological features include presence of a narrow column of parakeratotic cells lying in an epidermal invagination known as coronoid lamella. The granular layer is absent just below the invagination and acrosyringia at the base are dilated.<sup>2</sup>

The lesions are usually distributed along lines of Blaschko and are mostly found on extremities. In most of the cases the lesions are present since birth, in others present during childhood. Adult cases have also been reported. PEODDN a tendency to persist and lesions increase as the patient grows. Currently there is no cure for PEODDN, and a number of available treatments have dismal therapeutic outcomes.

## Case report

A 25-year-old female came to our OPD with the complaints of asymptomatic keratotic papules on right palm and on right foot that had been present for the past 3 years. Family history was non significant. Clinical examination showed presence of multiple rough and keratotic papules (some discrete others in linear configuration), distributed over right palm's radial aspect, just below and in front of base of thumb. Between the papules there were pits with keratinous, comedo like plugs (**Figure 1, 2**) Similar lesions

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### Address for correspondence

Dr. Moin Ahmad Siddiqui  
Senior Resident,  
Department of Dermatology,  
Integral Institute of Medical Sciences and Research,  
IIMSR, Lucknow, India.  
Email: moinahmad12@gmail.com

were found on the inner side of right foot, on an



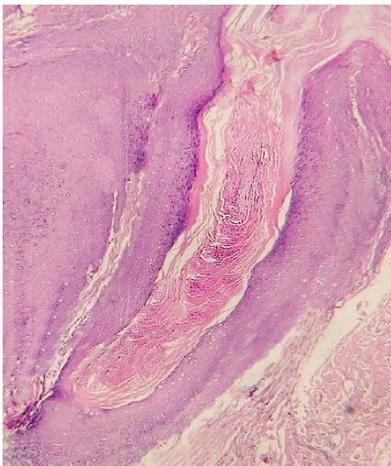
**Figure 1** Multiple keratotic papules over right palm (radial aspect, just below and in front of base of thumb).



**Figure 2** Close up view showing pits with keratinous, comedo like plugs.



**Figure 3** multiple keratotic papules over inner side of right foot (just below the medial malleolus area).



**Figure 4** Histopathology (H&E staining) showing a parakeratotic column filling a cup shaped invagination in the epidermis, granular cells replaced by cluster of dyskeratotic cells.

area just below the medial malleolus (**Figure 3**).

Oral mucosa, hair and nails were normal on examination. Her routine laboratory tests were within normal limits. A skin biopsy was advised which showed features characteristic of PEODDN (**Figure 4**).

## Discussion

PEODDN was first described by Marsden *et al.* in 1979, as comedo nevus of palm and scanning electron microscopy revealed keratotic plugs

occluding the eccrine ostia.<sup>3</sup> Later in 1980, Abell and Reed redefined it. Other names for PEODDN include prokeratotic eccrine ostial and hair follicle nevus, palmar and plantar pseudocomedo sweat nevus and linear eccrine nevus with comedones.<sup>4</sup>

The cause for its occurrence is still unidentified. Several hypotheses have been given.<sup>5</sup> According to Stoof *et al.*, the cause for abnormal development is the reduced expression of carcinoembryonic antigen (CEA) by cells in the acrosyringium.<sup>6</sup>

Wang *et al.* performed keratin staining on the cells underneath coronoid lamella and proposed that aberrant keratinizing epidermal invagination may be caused by enhanced proliferation.<sup>1</sup>

PEODDN presents clinically as multiple keratotic papules and numerous punctate pits that are distributed in a linear fashion. Lesions usually occur on palms and soles. Sometimes these mimic lesions of linear verrucous epidermal nevus (VEN), when present elsewhere. The majority of reported cases in literature are localized to palm and soles with just a few cases including additional areas of the body. Cambiaghi *et al.* hypothesised the role of

genetic mosaicism in lesions distributed along lines of Blaschko.<sup>7</sup> PEODDN mostly presents since birth, in others during childhood. Mostly the lesions are asymptomatic but sometimes pruritus and hyperhidrosis are associated. Other associated conditions reported in literature include Bowen's disease, squamous cell carcinoma, alopecia, onychodysplasia, hyperthyroidism, seizure disorder etc.<sup>8</sup>

Our patient presented with asymptomatic keratotic papules and pits with keratinous comedo like plugs, over her palm and soles, present in a linear fashion without any coexisting condition. Histopathology shows invaginations in epidermis with coronoid lamella. Similar findings were seen in our patient.

Differential diagnosis includes linear porokeratosis, linear VEN, linear psoriasis and nevus comedonicus. All these, lack the distinctive histological feature of cornoid lamella. Lesions may remain as such, evolve more and develop hyperkeratosis or involute with time.

In terms of therapy, there are very few options described in literature. For small and localized lesions, surgical excision is an option. In few cases, CO<sub>2</sub> laser was found to be effective. Ultra-pulsed CO<sub>2</sub> laser has been found to give comparatively better aesthetic results. Topical treatment includes steroids, calcipotriol, retinoids, anthralin etc. Electrocautery, phototherapy, and cryotherapy have also been tried with variable results.<sup>9</sup>

## **Conclusion**

PEODDN is an uncommon and rare dermatological condition. Till date, only few cases are reported from all over the world. We report this case for its rarity, cosmetic concern

and psychological impact especially in case of females.

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