A Case of Atypical Seborrheic Keratoses Mimicking Porokeratosis

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Seborrheic keratoses are the most common acquired benign epithelial tumour of the skin as circumscribed tan brown patches or thin plaque. Porokeratosis is a morphologically distinct disorder of keratinization characterized clinically by hyperkeratotic papules or plaques surrounded by a threadlike elevated border that expands centrifugally. Differentiating both diseases is often challenging because of their clinical and histopathological evaluations. A 42-year-old woman presented with brown to black plaque surrounded by an elevated border for 16 years. Microscopically, findings revealed hyperkeratosis, acanthosis, papillomatosis as church spire and horn cyst intraepidermal. She was initially treated with topical tretinoin 0.05% cream for 4 weeks, however remission was not obtained. Key-word: benign tumour; porokeratosis; seborrheic keratosis.

Introduction

Seborrheic keratoses (SK) are the most common benign epithelial tumours in humans and are estimated to affect at least 20% of the adult population, especially older adults (1). The majority of SK are monoclonal tumours, representing autonomous neoplasia resulting from clonal expansion of somatically mutated cells rather than epidermal hyperplasia (2). The exact cause of SK is unknown. Genetic predisposition and sun exposure are thought to contribute to the pathogenesis of SK. Viral infection such as human papillomavirus (HPV) has also been linked to SK but its precise role is still unclear (3). SK begin as circumscribed tan brown patches or plaques which become more papular or verrucous with scales and stuck-on appearance (4). Predilection sites generally include the trunk, especially the interscapular region, sides of the neck, face and arms. Mucous membranes are usually spared (5). SK can be divided into 6 major microscopic variants: acanthotic, hyperkeratotic, adenoid, irritated, clonal, and melanoacanthoma. Microscopically, all subtypes have 3 features in common: hyperkeratosis, acanthosis, and papillomatosis (6). Lately, dermoscopic examination has emerged as a useful non-invasive method for diagnosing SK with typical features of multiple milia-like cysts, comedo-like openings, fissures, finger-print structures and sharply demarcated borders (7, 8).

Porokeratosis (PK) is a chronic progressive disorder of keratinization, clinically characterized by hyperkeratotic papules or plaques surrounded by a threadlike, elevated border that expands centrifugally (9).

However, clinically and dermoscopically unusual cases of SK have been reported with increasing frequency since the publication of these original features (10). We aim to present here a case of SK with atypical clinical appearance, which presented as a brown to black plaque surrounded by an elevated border mimicking porokeratosis.

Case report

A 42-year-old woman presented to our dermatology clinic with a 16-year history of multiple, generalized black plaques surrounded by an elevated border. The lesions started as a small plaque on the left lower extremity, which slowly increased in size and number and progressively spread to other regions. There was no pain or discharge; however, the patient occasionally complained of itching although it did not hinder her daily activities. The patient worked as a shrimp miner and was frequently exposed to the sun. Her father had a similar complaint.

On clinical evaluation, generalized, well-demarcated black annular plaques with elevated border and atrophic centre were observed (Fig. 1). Laboratory findings were within normal limits. We considered differential diagnosis of porokeratosis, granuloma annulare and discoid lupus erythematous. Dermoscopic examination was carried out and showed multiple milia-like cysts, comedo-like openings, and sharply demarcated borders (Fig. 2]). Skin biopsy was taken from left lower extremity. Histopathological examination with haematoxylin-eosin staining exhibited hyperkeratosis, acanthosis, papillomatosis

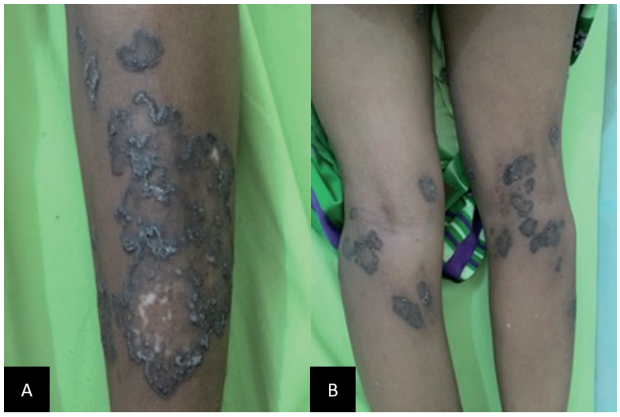

Fig. 1. Black plaque surrounded by an elevated border on the left lower extremity (A) and popliteal fossa (B)

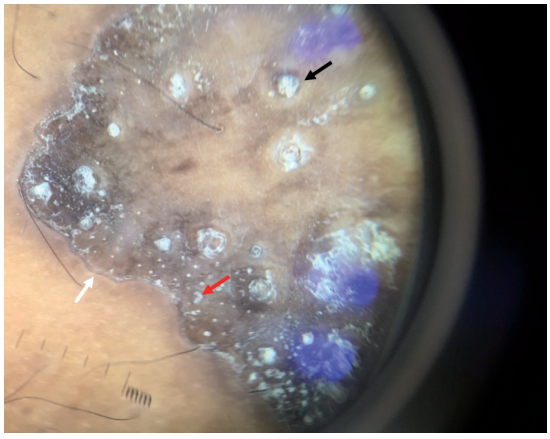

Fig. 2. Dermoscopic examination showed milia-like cyst (red arrow), comedo-like opening (black arrow), and sharply demarcated border (white arrow)

(church spire), intraepithelial keratin cysts (horn cysts) and pseudo horn cyst in the epidermis which opened to the surface (Fig. 3). Dermoscopic and histopathological evaluation established the diagnosis of SK. Topical tretinoin 0.05% cream was tested for 4 weeks; however, remission was not obtained.

Discussion

SK, also known as seborrheic verruca, Barnacles of old age, or senile wart, was first described in 1869 as a common benign non-melanocytic epidermal tumour. Inherited with an autosomal dominant fashion, it commonly affects middle age with equal sex distribution and increases with age (11,12). The etiopathology of SK is not completely understood. It is considered a sign of ageing skin and is associated with UV-exposure (13).

The classical clinical presentation of SK are well-defined rounded lesions that are 'stuck on the skin' with a verrucous, rough, dull or punched-out surface. On most occasions, these lesions are preceded by flat lesions with a smooth surface. When presented with this classical appearance, they are usually readily identified without the need for a biopsy (14). However, in this case, the lesions are presented as well-demarcated annular black plaques with an elevated border and atrophic centre. With the absence of the classical stuck-on appearance and the lesion morphology, we also considered the possibility of PK. PK presents as brown, coin-shaped, skin-coloured keratotic papules or plaques with elevated border and well-defined border (15). The middle part of the plaque is slightly atrophic and depressed, often hyperpigmented but rarely hyperkeratotic (16).

Histopathological examination of the patient revealed epidermal hyperkeratosis, acanthosis, papillomatosis (church spire), intraepithelial keratin cysts (horn cysts) and pseudohorn cysts; the latter show slight extrusion from the epidermis. Characteristic histologic findings of KS include hyperkeratosis, acanthosis, papillomatosis and pseudo horn cyst (3). Pseudohorn cysts are the product of cross-sectioned epidermal invaginations and are very characteristic for SK, although not always present. Acanthosis is the result of the accumulation of benign squamous and basaloid keratinocytes which usually project outward and upward irregularity. The marked papil-

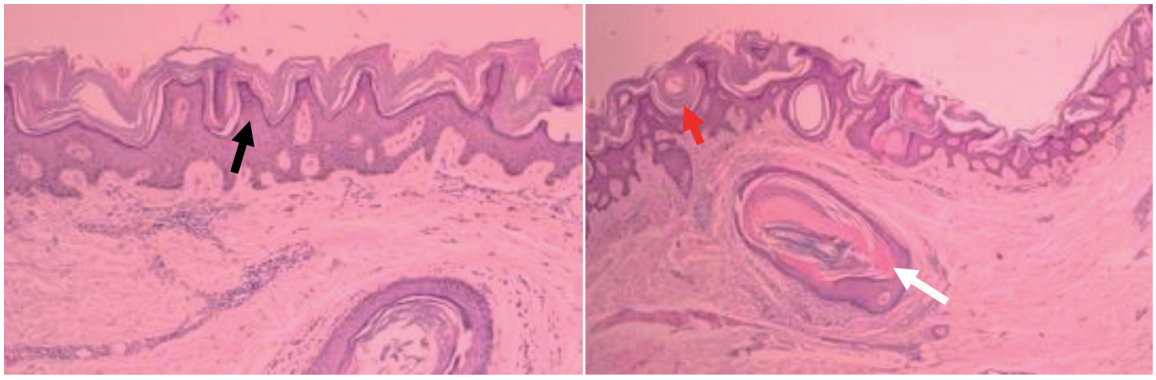

Fig. 3. Histopathological examination showed hyperkeratosis, acanthosis, papillomatosis as church spire (black arrow), horn cyst intraepidermal (white arrow) and pseudo horn cyst in the epidermis which opened to the surface (red arrow) (H&E, x40)

lomatosis and hyperkeratosis are often equated with "church spires" with shadows of retained cornified material at their peaks (17). These descriptions are in contrast to PK, where the hallmark histopathological finding is cornoid lamella. The cornoid lamella is classically described as an area of stacked parakeratosis within a keratinous invagination in the epidermis, which is angled towards the center of the lesion. The underlying granular layer is usually decreased or lost (18).

Dermoscopically, the classic features of SK are multiple milia-like cysts which are small, round, white-yellow structures that correspond to intraepidermal keratin-filled cysts; comedo-like openings, which are blackhead like plugs on the surface of the tumour associated with pseudohorn cysts in the epidermis that open onto the surface; fissures/ridges (brain-like appearance) which are occasionally branched lines whose colours varies from hypopigmented to brown, black and blue according to papillomatous growth of the epidermis; light brown fingerprint-like structures; and sharply demarcated borders (19, 20). These characteristics are consistent with this case, which showed multiple milia-like cyst, comedo-like openings, and sharply demarcated borders. On the other hand, characteristic dermoscopic findings of PK are white peripheral border, often double marginated, which represent cornoid lamella. In addition, homogenous central white scar-like area, red-brown dots and globules, and pinpoint vessels or irregular linear vessels patterns can also be found (21, 22).

Cryotherapy and laser surgery are two main treatment options in SK. Topical therapy, on the other hand, is still not well established, despite its reports in several cases. Retinoids, a vitamin A analogue, acts as a regulator for epidermal proliferation and differentiation. Administration of 0.1% tazarotene cream twice a day to 15 patients with SK resulted in clinical and histological improvement. In one study, 0.075% retinoic acid solution was applied to SK lesions for 6 weeks and gave the best clinical result. However, complete remission was not established (23).

Conclusion

We showed an atypical case of SK which resembled PK. Histopathological and dermoscopic examination were crucial in confirming the diagnosis.

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