Atypical Hyperkeratotic Seborrheic Keratosis Mimicking Granuloma Faciale: Diagnostic Challenges and Histopathological Insights – A Case Report

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Abstract

Seborrheic keratosis (SK) is among the most common benign epidermal neoplasms, yet its clinical heterogeneity can obscure diagnosis, particularly when it mimics rarer inflammatory or neoplastic dermatoses. Hyperkeratotic variants lacking classic verrucous features present a particular diagnostic challenge. This case is presented to highlight the diagnostic pitfalls of atypical hyperkeratotic seborrheic keratosis and to emphasize the critical role of histopathological evaluation in distinguishing it from clinically similar facial dermatoses.

We describe a 40-year-old woman with a two-year history of a solitary, indurated, erythematous plaque on the right cheek. The lesion was pruritic, slowly progressive, and devoid of hallmark features of SK. The initial diagnostic considerations included granuloma faciale. However, histopathological evaluation of a biopsy specimen revealed marked acanthosis, papillomatosis, orthokeratosis, and horn cysts, confirming a diagnosis of hyperkeratotic seborrheic keratosis (HSK).

This case highlights the diagnostic complexities posed by atypical SK variants and the critical role of histopathology in distinguishing SK from clinically similar dermatoses such as granuloma faciale. Accurate diagnosis is essential to avoid unnecessary interventions and to guide appropriate management.

Keywords: Granuloma Faciale Mimicry, Histology, Atypical Seborrheic Keratosis, Diagnostic Challenges.

Kératose séborrhéique hyperkératosique atypique mimant un granulome facial : Difficulté diagnostique et intérêt de l'histopathologie à propos d'un cas

Résumé

La kératose séborrhéique (KS) figure parmi les néoplasmes épidermiques bénins les plus fréquents. Cependant, son hétérogénéité clinique peut compliquer le diagnostic, notamment lorsqu'elle imite des dermatoses inflammatoires ou néoplasiques plus rares. Les variantes hyperkératosiques dépourvues des caractéristiques verruqueuses classiques représentent un défi diagnostique particulier. Ce cas est présenté afin de mettre en lumière les pièges diagnostiques de la kératose séborrhéique hyperkératosique atypique et de souligner le rôle crucial de l'examen histopathologique pour la distinguer des dermatoses faciales cliniquement similaires.

Nous décrivons le cas d'une femme de 40 ans présentant depuis deux ans une plaque érythémateuse, indurée et solitaire sur la joue droite. La lésion était prurigineuse, d'évolution lente et dépourvue des caractéristiques typiques de la KS. Le diagnostic initial envisagé incluait le granulome facial. Cependant, l'examen histopathologique d'un prélèvement biopsique a révélé une acanthose marquée, une papillomatose, une orthokératose et des kystes cornés, confirmant le diagnostic de kératose séborrhéique hyperkératosique (KSH).

Ce cas souligne la complexité du diagnostic des variantes atypiques de la kératose séborrhéique et le rôle crucial de l'histopathologie pour la distinguer des dermatoses cliniquement similaires, telles que le granulome facial. Un diagnostic précis est essentiel pour éviter des interventions inutiles et orienter la prise en charge.

Mots-clés : Mimétisme avec le granulome facial, Histologie, Kératose séborrhéique atypique, Difficultés diagnostiques.

Background

Seborrheic keratosis is a common benign skin tumour of epidermal origin, primarily affecting adults[1–3]. It commonly presents as multiple verrucous papules or plaques on sun-exposed areas such as the face and trunk [1–3]. Various clinical and histological types of seborrheic keratosis exist, some of which may mimic diverse benign and malignant conditions[1]. Hyperkeratotic Seborrheic Keratosis (HSK), is an uncommon variant characterized by the proliferation of basaloid and squamoid cells often with the development of pseudo-horn cysts[4,5]. While typically asymptomatic, inflammation triggered by trauma or irritants can lead to symptoms such as redness, swelling, pruritus, tenderness and even ulceration. These changes can render SK morphologically indistinguishable from other benign or malignant skin conditions with similar anatomical predilection, such as verruca vulgaris, actinic keratosis, basal cell carcinoma (BCC), squamous cell carcinoma (SCC) and Bowen's disease.

Case report

A 40-year-old woman presented to the dermatology outpatient clinic with a solitary, non-pigmented facial lesion that had persisted for two years. It began as a mildly pruritic patch, gradually evolving into an erythematous oval plaque. There was no associated pain, bleeding, or history of trauma. The patient had used unidentified topical medications before presentation. Her medical, family, and social histories were unremarkable.

Clinical examination revealed a well-demarcated, indurated erythematous plaque measuring 4 × 5 cm on the right upper cheek (Figure 1). She did not have regional lymphadenopathy or systemic abnormalities. Differential diagnoses included granuloma faciale, cutaneous sarcoidosis, and squamous cell carcinoma.

Baseline laboratory investigations, including complete blood count and fasting blood glucose, were within normal limits, indicating no underlying haematological abnormality or glycaemic dysregulation. Histopathological analysis of a 4 mm punch biopsy of the lesion demonstrated acanthosis, papillomatosis, orthokeratosis, and moderate hyperkeratosis. Multiple horn cysts and pseudo-horn cysts were present, accompanied by patchy lymphocytic infiltrates (Figure 2). These findings confirmed a diagnosis of hyperkeratotic seborrheic keratosis (HSK).

Following histologic confirmation, electrodessication was recommended. However, the patient was subsequently lost to follow-up.

Figure1. Solitary erythematous indurated facial plaque on the right cheek, mimicking granuloma faciale

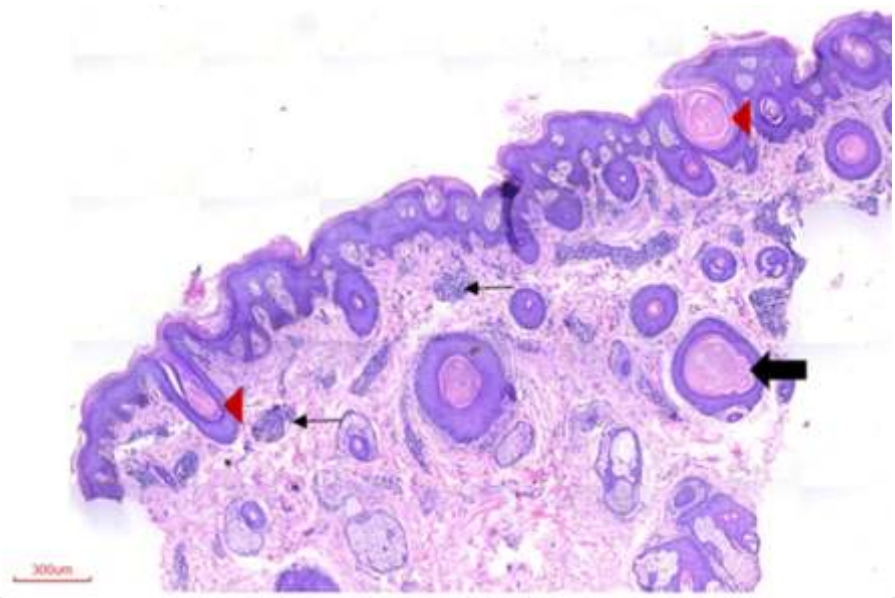

Figure 2. Micrograph showing keratotic papillomatous seborrheic keratosis with mild acanthosis, orthokeratosis and moderate hyperkeratosis. There are multiple pseudo-horn cysts (red arrowhead), true horn cysts (thick black arrow) and chronic inflammatory infiltrates in the superficial dermis (thin black arrows). The epidermis is comprised of a mixed population of basaloid and predominantly squamous epithelial cells.

Discussion and literature review:

Seborrheic keratosis is a benign skin tumour arising from clonal expansion of epidermal keratinocytes [4,6]. Typically presenting in middle-aged to older adults, SK manifests as sharply demarcated pigmented papules or plaques that, over time, become verrucous with a "stuck-on" appearance[2,4]. The common distribution includes the face, scalp and trunk, with sparing of the palms and soles[1,4,5]. The diagnosis of SK is often made clinically, aided by dermoscopy, such that biopsy is not routinely performed unless there is a diagnostic challenge.

Various clinical and histological subtypes of seborrheic keratosis, such as stucco seborrheic keratosis, eruptive seborrheic keratosis, hyperkeratotic, clonal, irritated, and adenoid SK, can mimic other skin diseases, including BCC, SCC, and melanomas, creating a significant diagnostic dilemma [1,7,8]. Irritated variants of seborrheic keratosis are particularly notorious for mimicking other dermatological conditions due to the inflammation and secondary changes, such as scaling and crusting, they often exhibit. Chronic irritation in SK can result in presentations that closely resemble SCC and BCC. In contrast, seborrheic keratosis masquerading as granuloma faciale has not, to the best of our knowledge, been previously documented, underscoring the novelty and clinical relevance of the present report.

In the index patient, the clinical history and presentation of the facial plaque closely mimicked granuloma faciale (GF), largely due to the absence of the characteristic verrucous, "stuck-on" appearance typically observed in seborrheic keratosis (SK). GF is a rare, benign, chronic inflammatory dermatosis that typically manifests as a solitary, asymptomatic, erythematous to reddish-brown or violaceous plaque with prominent follicular openings [9–11]. Like SK, GF predominantly affects sun-exposed areas, particularly the face, and its aetiology, while not fully understood, has been linked to chronic sun exposure[4,5,9,12]. Importantly, GF is histopathologically classified as a form of leukocytoclastic vasculitis and typically follows a persistent course with a high propensity for recurrence following treatment. While GF and SK are generally distinguishable by their clinical and histologic features, this case highlights how prior topical therapies can obscure the diagnostic hallmarks of SK, leading to a misleading clinical

picture that suggests GF. Accurate differentiation is critical, as GF—despite being benign—requires a distinct therapeutic approach from that of S K.

Research indicates that the misdiagnosis of seborrheic keratosis is not uncommon, with even experienced dermatologists occasionally misled by its clinical appearance. Studies suggest that between 13.8% and 36.2% of clinically diagnosed seborrheic keratoses are misdiagnosed or demonstrate clinicopathological discrepancies. [1,4,5,8,13] While reports of seborrheic keratosis mimicking other cutaneous tumours are common, cases of hyperkeratotic seborrheic keratosis (HSK) presenting as a slowly spreading, non-verrucous erythematous plaque, as seen in the index case, are rare.

The histological distinction between HSK and other differential diagnoses is crucial for appropriate therapeutic interventions. Histologically, HSK shows typical features of SK, including hyperkeratosis, acanthosis, and pseudohorn cysts, along with an inflammatory component characterized by superficial dermal lymphocytic infiltrates (Figure 2). Dermoscopic features of SK, including HSK, have been well-characterized, and include milia-like cysts, comedo-like openings, cerebriform patterns and a vascular pattern of hairpin-like structures [1–3,7,14]. While attempting to distinguish between irritated variants of SK and SCC using dermoscopy, Papageorgiou et al.[15] identified hairpin vessels, a diffuse, regular vessel arrangement, and perivascular white halos in more than 10% of lesions as predictors of irritated seborrheic keratosis.

Further complicating the diagnosis of SK is the potential for collision tumours, in which SK coexists with other tumours, or the presence of foci of squamous cell differentiation within SK lesions, mimicking the horny pearls of SCC.[16] Additionally, the rare potential for malignant transformation within SK lesions adds another layer of diagnostic complexity.[13,16] This case was histologically confirmed as SK with no evidence of malignancy; however, atypical presentations of SK, particularly those with surrounding erythema and ulceration, should raise a clinical suspicion of the possibility of collision tumours or associated malignancies within the SK lesions, as reported by Ye, Q. et al [12]

The management of hyperkeratotic seborrheic keratosis (HSK) aligns with that of other SK variants. Definitive treatment options include cryotherapy, curettage, or electrodessication, each capable of removing the lesion effectively. In irritated variants, management primarily focuses on eliminating the source of irritation and providing symptomatic relief. However, accurate diagnosis remains critical to avoid unnecessary interventions and to guide appropriate treatment. When clinical or dermoscopic features are inconclusive, histopathological confirmation via biopsy is indispensable for establishing a definitive diagnosis.

Conclusion

This case of an atypical hyperkeratotic seborrheic keratosis highlights the diagnostic challenges posed by atypical presentations of common dermatologic conditions. While diagnosing HSK is generally straightforward, irritation and inflammation can lead to clinical and histological challenges that mimic more serious conditions, such as squamous cell carcinoma, BCC, and GF. A thorough evaluation, including histopathological examination, is essential for accurate diagnosis and appropriate treatment. Clinicians should be aware that HSK may present with features similar to those of other common benign and malignant skin lesions. They should consider a broad differential diagnosis when evaluating erythematous facial plaques in adults.

Permissions and Consent: Informed consent was obtained from the patient for the publication of this case report.

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