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ORIGINAL ARTICLE

Histopathological Diagnosis Transformed Into Clinical Diagnosis Inverted Follicular Keratosis

Klinik Tanıya Dönüşen Histopatolojik Tanı: Inverted Foliküler Keratoz

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ABSTRACT

Inverted follicular keratosis (IFK) is a rare benign tumor characterized by endophytic proliferation originating from the infundibulum of the hair follicle (1,2). Although not frequently encountered, we believe that inverted follicular keratosis should be considered a distinct entity to keep in mind due to its potential to be confused with conditions such as verruca vulgaris, seborrheic keratosis, actinic keratosis, keratoacanthoma, basal cell carcinoma, and squamous cell carcinoma.

Keywords: Actinic changes, Follicular keratosis, Histopathology

ÖZ

İnverted foliküler keratoz nadir olarak ortaya çıkan kıl folikülünün infindibulum kısmından köken alan endofitik büyüme ile karakterize benign bir tümördür (1,2). Çok sık görülmemekle birlikte karışabileceği; verruka vulgaris, seboreik keratoz, aktinik keratoz, keratoakantom, bazal hücreli karsinom ve skuamöz hücreli karsinom gibi durumlar nedeniyle inverted foliküler keratozun akılda tutulması gereken bir antite olması gerektiğini düşünmekteyiz.

Anahtar Kelimeler: Aktinik değişiklikler, Foliküler keratoz, Histopatoloji

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Introduction

Inverted follicular keratosis (IFK) is a rare benign tumor characterized by endophytic proliferation originating from the infundibulum of the hair follicle [1, 2]. It usually occurs in middle-aged and elderly men as an asymptomatic, solitary, white-pink, verrucous nodule smaller than 1 cm in diameter, localized to the face and neck region in approximately 90% of cases [1, 2, 3, 4].

Case

A 48-year-old male patient presented to our clinic with a mass located on the left malar region, which had appeared approximately 2 months prior to his visit. On dermatological examination, an asymptomatic, sharply demarcated papule approximately 0.5 × 0.5 cm with a central keratin plug was observed on the left malar region (Figure 1). The dermatological examination of the remaining body areas was unremarkable. The patient's past medical and family history was unremarkable. His laboratory investigations were within normal limits. Dermoscopic examination (DermLite DL5 dermoscope in polarized mode, ×10 magnification) revealed hairpin vessels surrounded by a white halo, yellow keratin plugs, and exophytic papular structures (Figure 2). The lesion was completely excised under local anesthesia with a preliminary diagnosis of keratoacanthoma. Histopathological examination revealed an inverted growth pattern, follicular plug, keratin pearls, and squamous eddies, leading to the diagnosis of inverted follicular keratosis (Figure 3). No residual lesion was observed at the surgical margins. During postoperative follow-up, no recurrence was detected. The patient was informed and placed under regular clinical observation.

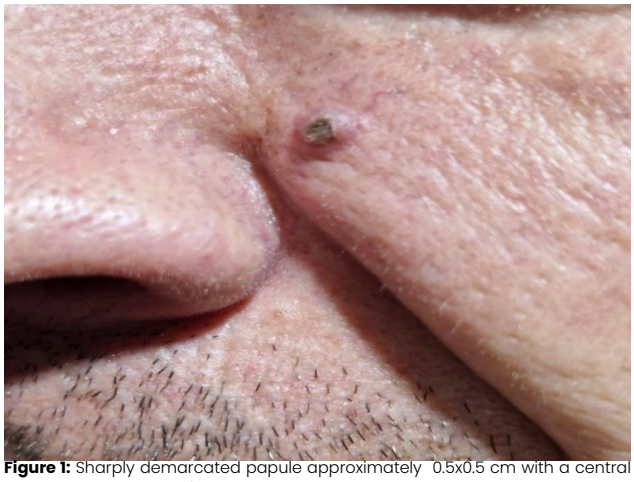

Figure 1: Sharply demarcated papule approximately 0.5x0.5 cm with a central keratin plug on the left malar region. Figure 1: Sharply demarcated papule approximately 0.5x0.5 cm with a central keratin plug on the left malar region.

Figure 2: Hairpin vessels surrounded by a white halo, yellow keratin plugs, and exophytic papular structures

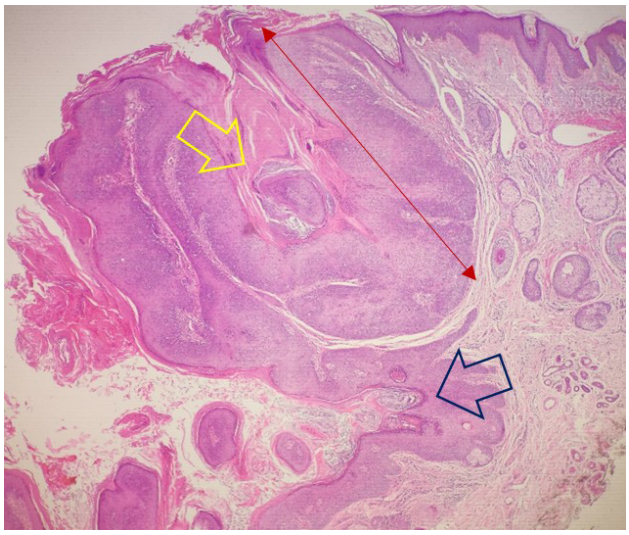

Figure 3: Inverted growth pattern extending toward the dermis (red arrow), follicular plug (yellow arrow), keratin pearls (blue arrow) and squamous eddies.

Discussion

Inverted follicular keratosis is a rare epithelial neoplasm originating from the infundibulum of the hair follicle [1, 2]. Its etiopathogenesis remains unclear; however, associations with verruca vulgaris and seborrheic keratosis have been reported [1, 3, 5]. Due to its clinical features resembling those of various dermatological conditions such as verruca vulgaris, seborrheic keratosis, actinic keratosis, keratoacanthoma, basal cell carcinoma (BCC) and squamous cell carcinoma (SCC), the diagnosis is generally established through histopathological evaluation [1, 3, 6]. Some studies have suggested that human papillomavirus (HPV) infection may contribute to the development of inverted follicular keratosis [3, 7]. In our case, additional testing for HPV was not performed.

Two main dermoscopic patterns of IFK have been described [2]. The most common pattern is the keratoacanthoma-like pattern, characterized by central keratin surrounded by hairpin vessels with a white halo [2]. The other pattern is characterized by a yellowish-white central area surrounded by hairpin vessels and a white halo [2]. Vascular structures are frequently observed and are mostly monomorphic, predominantly hairpin vessels surrounded by a white halo [2]. However, other vascular morphologies such as arborizing vessels, glomerular vessels, linear irregular vessels, corkscrew vessels, and milky-red globules may also be seen [2].

Histopathologically, inverted follicular keratosis is characterized by large lobules extending into the dermis, keratin pearls containing squamous eddies, and horn cysts [1, 3].The endophytic growth pattern extending into the dermis and its association with hair follicles assist in differentiating IFK from seborrheic keratosis [8]. Nonetheless, in some cases, it can be challenging to distinguish inverted follicular keratosis from seborrheic keratosis [3]. Additional findings such as hyperkeratosis and parakeratosis may also be present [1, 3]. However, these histopathological

findings are not specific to inverted follicular keratosis [1].

Total surgical excision is the most commonly used method in the treatment of inverted follicular keratosis [1]. In the literature, recurrence following total excision has been reported rarely [6]. Recurrences may occur in cases where residual lesions are observed at the excision margins [6]. In the literature, there are also cases successfully treated with topical 5% imiquimod cream, which has antitumoral and antiviral activity [3, 9]. When considering the use of cryotherapy, which is frequently employed in the treatment of similar lesions, there appears to be no published reports in the literature regarding its application in cases of inverted follicular keratosis. We think that the possible reason for this is that total excision is applied in cases of inverted follicular keratosis for both diagnostic and therapeutic purposes, as in our case.

Whether inverted follicular keratosis represents a distinct entity or a morphological variant of other well-defined lesions remains a matter of debate. Further studies with larger case series are needed to clarify this issue.

Although not frequently encountered, we believe that inverted follicular keratosis should be considered a distinct entity to keep in mind due to its potential to be confused with conditions such as verruca vulgaris, seborrheic keratosis, actinic keratosis, keratoacanthoma, basal cell carcinoma, and squamous cell carcinoma.

Although recurrence is rarely reported in the literature, we believe that patients should be closely monitored for potential recurrence following excision.

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