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Case report

Inverted follicular keratosis of the ear lobe masquerading as malignancy

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Abstract

Inverted follicular keratosis (IFK) is a rare benign tumour of the hair follicle infundibulum, often misdiagnosed as malignancy due to its clinical resemblance to squamous cell carcinoma and basal cell carcinoma. It typically presents as a solitary lesion on the face or neck of elderly individuals. Involvement of ear lobes is a rare occurrence. We report a case of a 66-year-old male who presented with a painful, progressively enlarging nodule on the posterior aspect of the left ear lobe. The lesion was clinically suspected to be squamous cell carcinoma or chondrodermatitis nodularis helicis. Histopathological examination following a punch biopsy confirmed the diagnosis of IFK. The patient was referred for surgical excision, which remains the mainstay of treatment. This case highlights the diagnostic challenge posed by IFK and underscores the importance of histopathology in distinguishing it from malignancies.

Introduction

Inverted follicular keratosis (IFK) is a benign tumour arising from the infundibulum of the hair follicle, predominantly affecting elderly men[1]. It is often misdiagnosed due to its clinical resemblance to squamous cell carcinoma, basal cell carcinoma, verruca, and seborrhoeic keratosis. Although most cases are reported on the upper lip and cheek[2], auricular involvement is rare. This report highlights a case of IFK on the ear lobe, which initially raised suspicion for malignancy.

Case presentation

A 66-year-old male presented with a painful, progressively enlarging nodule over the left ear lobe for two months. There was no history of trauma, insect bites, or discharge from the lesion. Clinical examination revealed a solitary, firm, well-demarcated nodule measuring 1 cm × 1 cm on the posterior aspect of the helix of the left ear lobe (Figure 1). The lesion had an irregular surface with crusting but lacked friability. No other similar lesions were noted elsewhere on the body.

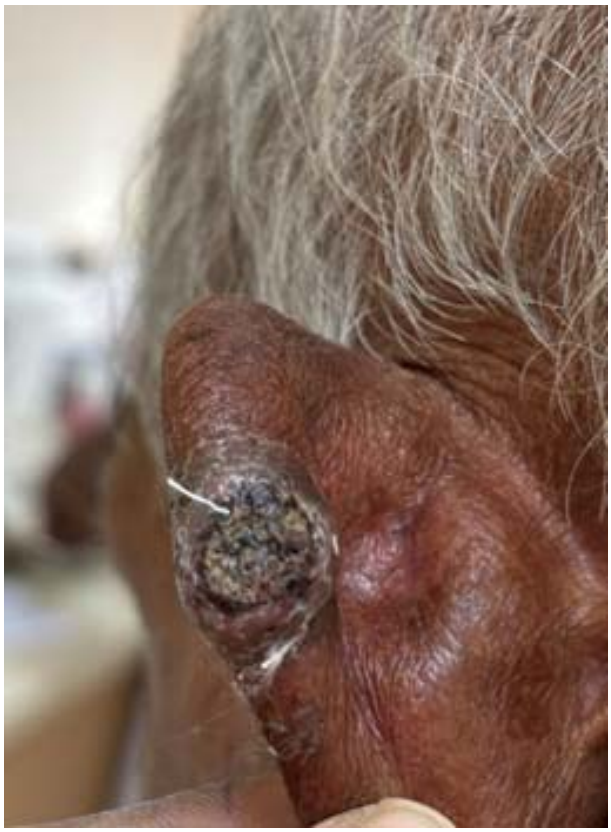

Figure 1. *Well demarcated skin coloured nodule with crusting on the posterior aspect of the helix.*

Based on clinical findings, differentials of chondrodermatitis nodularis helicis and squamous cell carcinoma were considered. A 4 mm punch biopsy

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was performed to establish a definitive diagnosis. On histopathological examination epidermis showed mild hyperkeratosis, acanthosis and endophytic lobules (Figure 2 & 3). Basal cells were seen in the periphery with central keratin. The presence of characteristic squamous eddies confirmed the diagnosis of IFK (Figure 4).

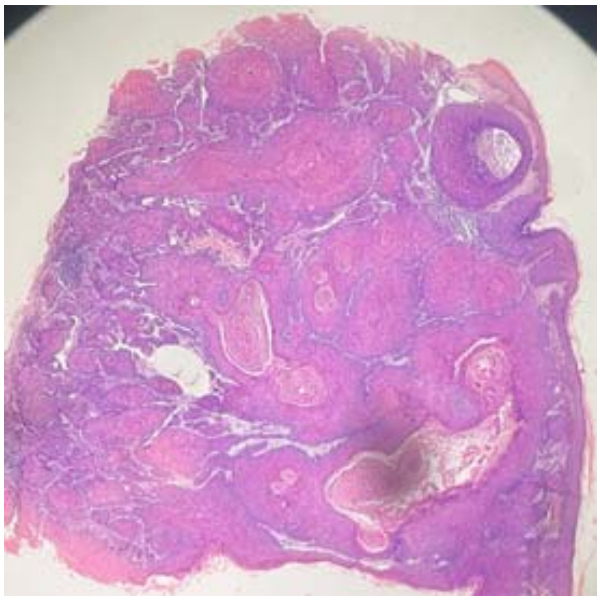

Figure 2. *Epidermis showing mild hyperkeratosis, acanthosis and endophytic lobules. (haematoxylin and eosin stain, ×40).*

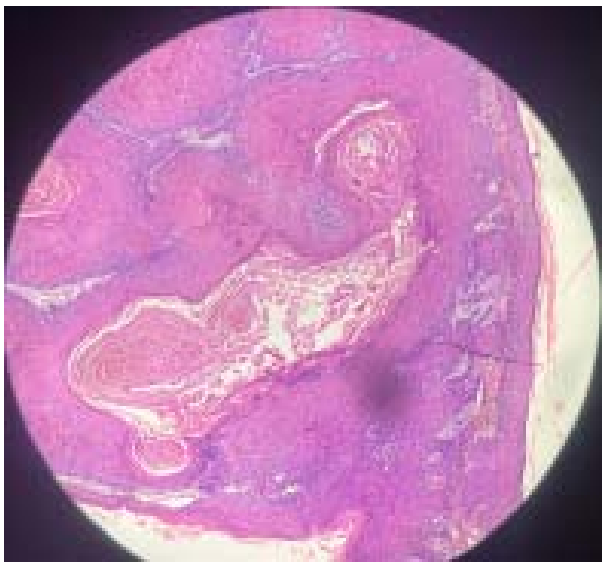

Figure 3. *Endophytic lobules. Basal cells in the periphery with central keratin. (haematoxylin and eosin stain, ×100).*

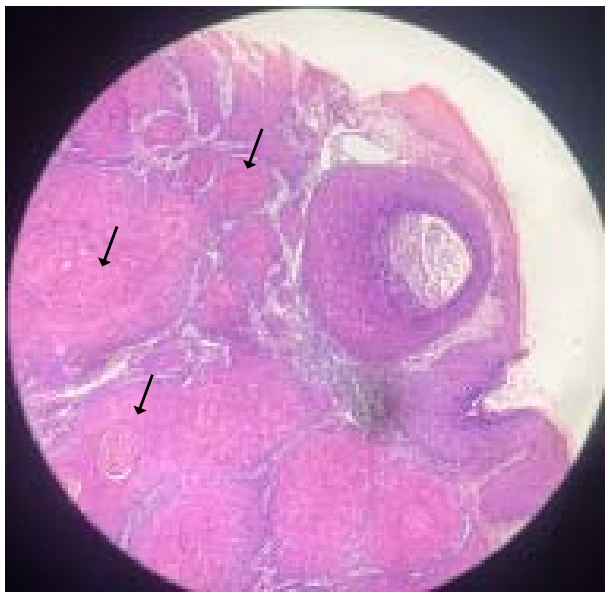

Figure 4. *Characteristic squamous eddies (black arrows). (H and E stain, 400×)*

The patient was referred to the plastic surgery team for complete excision of the lesion. On follow up of the patient after six months, there was no evidence of recurrence after complete excision.

Discussion

IFK is an uncommon lesion of the follicular infundibulum, predominantly affecting middle-aged to elderly Caucasian males. It commonly presents as a solitary lesion on the face, with 85% of cases occurring on the upper lip and cheek[2]. Auricular involvement, as seen in this case, is unusual.

Clinically, IFK mimics various benign and malignant lesions, including seborrhoeic keratosis, verruca, trichilemmoma, basal cell carcinoma, and squamous cell carcinoma[3]. The diagnostic challenge is particularly significant in elderly patients where malignancy is a primary concern.

Histopathology remains the gold standard for diagnosis. IFK is characterised by endophytic proliferation with lobular and filiform projections of squamous cells extending into the dermis[3]. The hallmark feature is the presence of squamous eddies – tight whorls of bland-appearing squamous cells, which differentiate it from malignant counterparts.

The exact aetiology of IFK remains unclear. Some studies suggest a possible association with human papillomavirus, seborrhoeic keratosis, viral warts,

and Cowden syndrome. While excision remains the treatment of choice, alternative approaches such as 5% imiquimod cream have been reported with success[3]. Recurrence is rare following complete removal.

Conclusion

This case emphasises the importance of considering IFK in the differential diagnosis of auricular nodules, especially in elderly patients where malignancy is a major concern. Given its benign nature, recognition of this entity is important. Dermatologists should maintain a high index of suspicion and histopathology is an invaluable tool to confirm the diagnosis and guide appropriate management.

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