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Perforating Pilomatricoma mimicking a Keratoacanthoma

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Abstract

Perforating pilomatricoma is a rare variant of pilomatricoma and clinical presentation is varied. We report 67-year-old patient with an unusual case of perforating pilomatricoma with clinical diagnosis of keratoacanthoma.

Introduction

Pilomatricoma is a benign cutaneous neoplasm with differentiation toward the hair matrix. The tumor presents as a firm subcutaneous nodule, commonly located on the face, neck, and upper extremities [1]. Three variants of pilomatricoma have been described morphologically well defined, anetodermic, proliferating, and perforating. These variants may be a problem in the clinical differential diagnosis with benign tumours (keratoacanthoma, foreign body granuloma, pyogenic granuloma) and malignant tumours (squamous cell carcinoma, dermatofibrosarcoma protuberans, amelanotic malignant melanoma and cutaneous lymphoma) [2].

We report clinical and morphological features of one rare case of perforating pilomatricoma arising keratoacanthoma.

Case Report

A 67-year-old man was referred to our centre with a 2-month history of an asymptomatic nodule on the left arm. There was no history of trauma. Clinical examination revealed a central crateriform ulceration lesion or keratin plug that may project like a horn of 1.5x1.2 cm (**fig. 1**). The clinical diagnosis was keratoacanthoma. The histopathological study showed fully developed lesions show lipping (buttressing) of the edges of the lesion which overlap the central keratin-filled crater, giving it a symmetric appearance. In the central area of the lesion presented basaloid cells with eosinophilic cytoplasm and eosinophilic shadow cells (**fig 2 and 3**). Calcification sites were also noted. The diagnosis perforating pilomatricoma was made and was excised. No recurrence was noted 1 year later.



Fig 1: Erythematous lesion show an elevated border with a central ulceration covered with crusts.

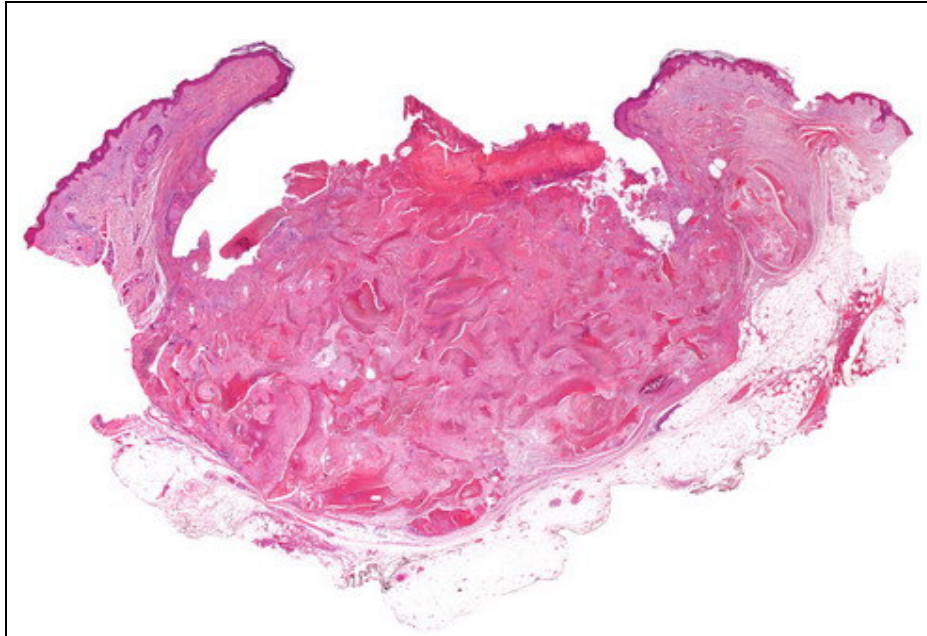


Fig 2: The epidermis adjacent to tumor is invaginated, forming kind of buttress, and connected to pilomatricoma (H&E Panoramic).

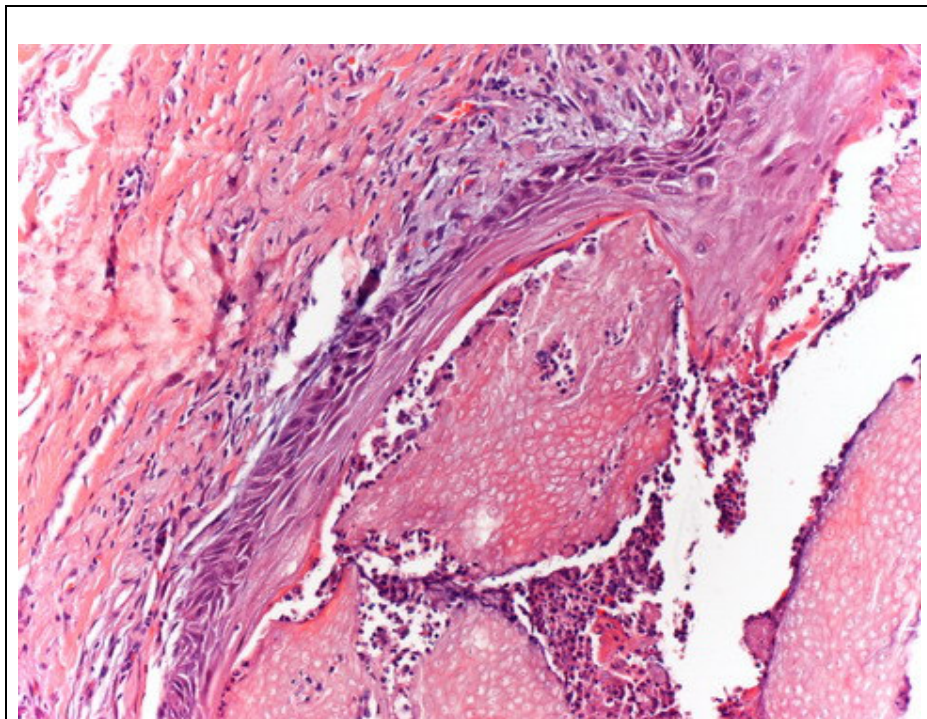


Fig 3: Present islands of eosinophilic shadow cells perforating to epidermis (original magnification, H&E x200).

Discussion

The first complete work, based on a series of patients was published by Malherbe 1880, described calcifying epitheliomas. The pilomatricoma is a common benign cutaneous adnexal tumor and is histologically composed of 3 types of cells: basophilic cells with deeply basophilic nuclei and scanty cytoplasm; shadow cells with a central unstained area; and transitional cells between the former 2 types of cells.

There are several clinical types of pilomatricoma: perforating, bullous, melanocytic, giant, keratoacanthoma-like, exophytic, anetodermic, lymphangiectatic, multinodular, malignant, symmetrical involvement and multiple [2].

Three variants of pilomatricoma have been described morphologically well defined: anetodermic [3], proliferating [4], and perforating [5].

The variant perforating pilomatricoma is a lesion is extremely rare, had been only reported 14 cases in the English literature. In our case the lesion in the panoramic has a crater with raised edges pattern, justifying the clinical diagnosis of keratoacantoma.

The phenomenon "perforating" has been termed transepithelial elimination. The mechanism of epidermal perforation said that the superficial location may be one of the causative factors in transepidermal elimination [6]. The pathological tissue behaves as a mechanical irritant and causes hyperplasia of the epidermis and epithelium of the hair follicle. Epithelial hyperplasia encloses the pathological tissue, which is gradually brought towards the surface and is finally eliminated with the keratinocytes [7].

There are types of lesions with transepidermal elimination as osteoma cutis which is a rare lesion characterized by the presence of the bone tissue within the dermis and/or hypodermis [8]; perforating granuloma annulare which is characterized by the transepidermal elimination of degenerated (necrobiotic) collagen fibers [9]; elastosis perforans serpiginosa which is a rare skin disease in which abnormal elastic tissue fibers, other connective tissue elements, and cellular debris are expelled from the papillary dermis through the epidermis (transepithelial elimination) [10]; perforating folliculitis which is a topical skin condition that resembles regular folliculitis but instead has a keratin, or harder skin, core [11].

In our case the lesion appeared in a short time, crater-like apparently giving the clinical diagnosis of keratoacanthoma.

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