

Squamous cell carcinoma arising from an epidermal inclusion cyst: A case report

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Abstract

Context: Cutaneous epidermal cysts are common lesions, but fortunately, malignant transformation of their epithelium is rare. There are few case reports in the literature concerning malignant transformation of an epidermal cyst into squamous cell carcinoma. We present a case of squamous cell carcinoma arising from an epidermal inclusion cyst and describe the clinical and histopathologic findings. **Case Report:** A tumour measuring 1.5cm was surgically excised. Based on the histopathologic findings of the tumour, this case was diagnosed as squamous cell carcinoma that arises in an epidermal cyst. Malignant change had not been suspected until histological examination revealed it. Nine months after tumour resection, the patient is free of disease. **Conclusion:** malignant transformation of an epidermal inclusion cyst is rare; this case illustrates the importance of routine histology in excision of epidermal cysts.

Keywords: Epidermal cyst, carcinoma, histopathology.

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Introduction

Epidermal cysts (or epidermoid cysts) are commonly encountered in practice. Malignant transformation of epidermal cyst is uncommon. There are few reports of such malignant transformation in the literature [1, 2].

We report a new case of a head epidermal inclusion cyst which underwent a malignant change 3 years after the initial detection of the lesion, and discuss the clinicopathologic features of this rare entity.

Case Report

A 50-year-old man, without previous medical or family history, presented with nodule (1.5 cm x 1 cm) on the head. The duration of the lesion was 3 years. Physical examination revealed a firm, mobile, mass, measuring 1.5 cm in diameter. The overlying skin appeared normal. This was diagnosed as sebaceous cyst. The tumour was completely resected. Macroscopic examination showed a nodular lesion measuring 1.5 cm in diameter. The overlying skin appeared intact. When bisected, the cut surface displayed a cystic lesion containing much

gelatinous material. Histological examination of the specimen showed a cystic lesion lined by bland squamous epithelium and filled with laminated keratin (Fig. 1).

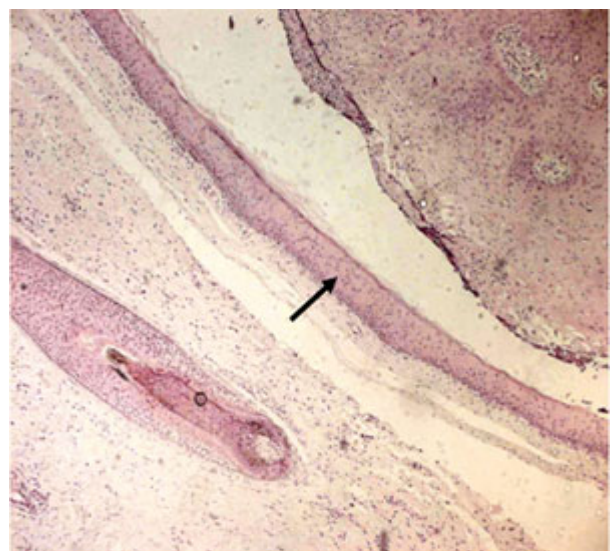


Fig. 1 Benign epidermal inclusion cyst filled with laminated keratin (hematoxylin and eosin, original magnification $\times 100$).

There were several small scattered islands of severely atypical squamous epithelium. These areas of typical epidermal cyst were juxtaposed with zones that displayed marked nuclear irregularity with mitotic activity and an infiltrative growth pattern (Fig. 2). Based on these findings, the diagnosis of squamous cell carcinoma arising in an epidermoid cyst was made.

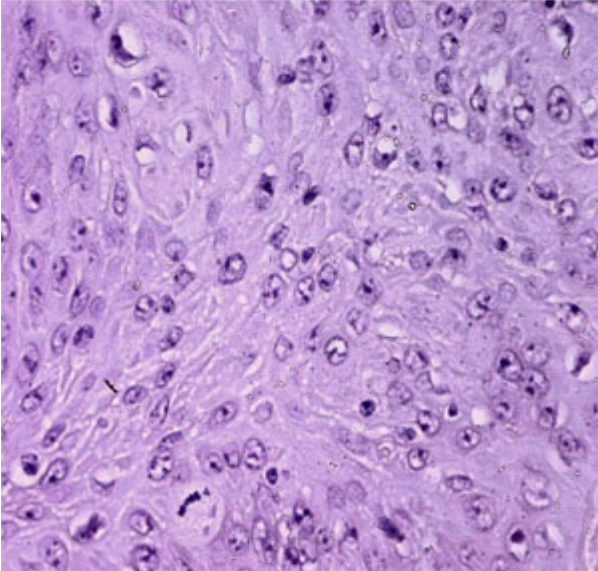


Fig. 2 Malignant squamous cell carcinoma arising from the epidermal cyst; with mitotic activity and cellular atypia (hematoxylin and eosin, original magnification $\times 400$).

Immunohistochemical detection of p53 antigen was found only in cell squamous carcinoma (Fig. 3). The surgical margins were free. The patient has not received any adjuvant therapy. Nine months after tumour resection, the patient is free of disease.

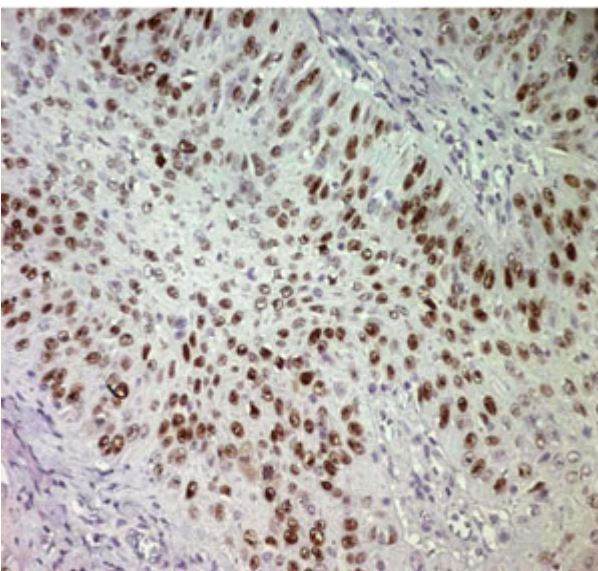


Fig. 3 Immunohistochemistry showing positivity of the tumor cells for P53 protein (original magnification $\times 200$).

Discussion

An epidermal inclusion cyst is a widespread benign intradermal lesion, and may occur anywhere in the body. A

carcinoma arising in a preexisting epidermal inclusion cyst or sebaceous cyst is uncommon. We know of few detailed case reports of carcinoma arising in epidermoid cysts [1, 2]. Reported rates of malignant transformation of epidermal cyst into cutaneous squamous cell carcinoma range from 0.011 to 0.045% [2, 3]. Most cases were on the head and neck, while the other lesions were on the trunk or limb [4, 5]. The size of the lesions ranged from 1.5 to 10 cm (mean, 5cm) and the duration of lesions ranged from 2 to 132 months (mean, 33.5 months) [3, 4].

In our case, the size and duration of the lesion were 1.5 cm and 3 years respectively. There is no gender or racial predisposition, and all ages may be affected [2]. Clinically, it is difficult to differentiate between a benign and malignant cystic lesion. Histological examination normally yields the diagnosis. The nature of the stimulus for malignant transformation is uncertain [6]. In this case it is probable that the loss of the wild-type p53 is a critical event responsible for malignant transformation.

The clinical course, prognosis, approach, and optimal management of this disease entity are not well-established. Squamous cell carcinoma arise in an epidermal cyst is rare. We emphasize that all resected skin cystic specimens should undergo further microscopic examination to avoid any misdiagnosis.

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