Pathol. Oncol. Res. (2011) 17:155–157
DOI 10.1007/s12253-010-9284-4

Fibroepithelioma of Pinkus in Continuity with Nodular Basal Cell Carcinoma: Supporting Evidence of the Malignant Nature of the Disease

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Received: 6 February 2010 / Accepted: 19 May 2010 / Published online: 29 May 2010

Abstract Basal cell carcinoma, the most common skin cancer, has several clinical and histopathological variants, with its most common form being nodular basal cell carcinoma. Fibrioepithelioma of Pinkus is considered as an unusual variant of basal cell carcinoma by some authors while others consider it to be a benign analogue of basal cell carcinoma. We present a rare case of fibroepithelioma of Pinkus in continuity with a nodular basal cell carcinoma, a finding that supports the classification of fibroepithelioma of Pinkus as a variant of basal cell carcinoma.

Keywords Basal cell carcinoma · Fibroepithelioma of Pinkus · Nodular · Skin cancer · Trichoblastoma

Introduction

Basal cell carcinoma (BCC) is the most common cancer in humans [1] and its incidence is increasing worldwide [2]. BCC is a form of skin cancer with slow growth that rarely metastasizes [1, 2]. BCC most commonly, in about 80%, occurs on the head and neck with the rest 20% on the trunk and lower limbs [2]. Typically BCC develop in the fourth decade of life and beyond [3]. BCC has diverse clinical appearances and morphology [1] and there are several clinical and histopathological variants [4] including the rodent ulcer, nodular or cystic, superficial, morphoeic and pigmented [2–4]. Nodular represents the most common form of the neoplasm [4], while fibrioepithelioma of Pinkus (FOP) is an unsual indolent variant of BCC [4]. There are very few reports of fibroepithelioma of Pinkus in continuity with a nodular BCC [5, 6]. We present another case of fibroepithelioma of Pinkus in continuity with a nodular BCC.

Case Report

A 69 year old female presented to our department complaining for the presence of a lesion of the lumbar area that had recently bled. The patient was unaware of the initial presentation and uncertain for the duration of the lesion. Her medical history was free. Clinical examination revealed a raised, erythematous nodule of the back measuring 1.3×1.2 cm. The lesion was surgically excised.

Histopathology revealed the presence of a nodular basal cell carcinoma in continuity with fibroepithelioma of pinkus (Fig. 1). The fibroepithelioma consisted of basaloid epithelial strands, two or three cells thick, anastomosing to compartmentalize the fibrous stroma (Fig. 2). The nodular basal cell carcinoma consisted of large nodules of basaloid cells with peripheral palisading nuclei that projected into the reticular dermis (Fig. 3).

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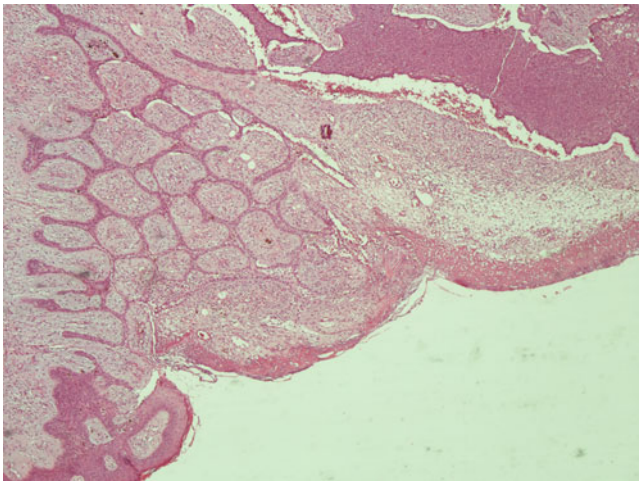

Fig. 1 Hematoxylin & eosin stain showing the fibroepithelioma of Pinkus (*left*) in continuity to the nodular basal cell carcinoma (*right*) (×100)

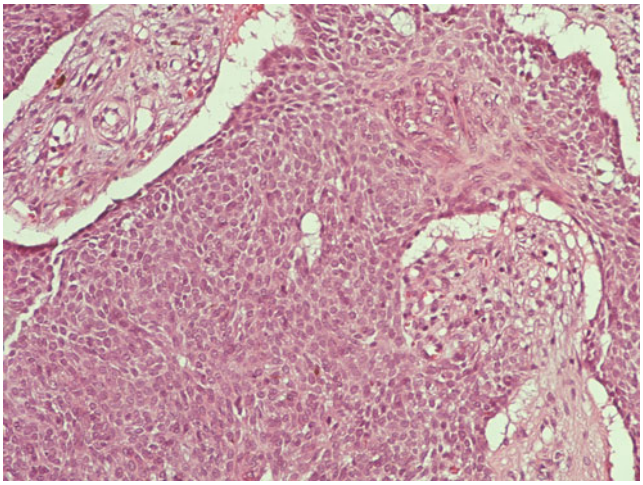

Fig. 3 Nodular basal cell carcinoma consisting of basaloid cells projecting into the reticular dermis (H&E ×200)

Discussion

Fibroepithelioma of Pinkus was originally described by Hermann Pinkus in 1953 as a premalignant fibroepithelial tumor of the skin [7]. Its classification still remains controversial and is considered by some as a variant of BCC [3, 8] while others categorize it as fenestrated trichoblastoma, a benign analogue of BCC [9].

Clinically FOP presents as a soft usually solitary, polypoid or papillomatous well circumscribed tumor of skin color or sliqhtly brown-gray. It is typically located to the trunk and extremities, most commonly on the lower back [10], and has a male to female ratio 1:1 [8, 9].

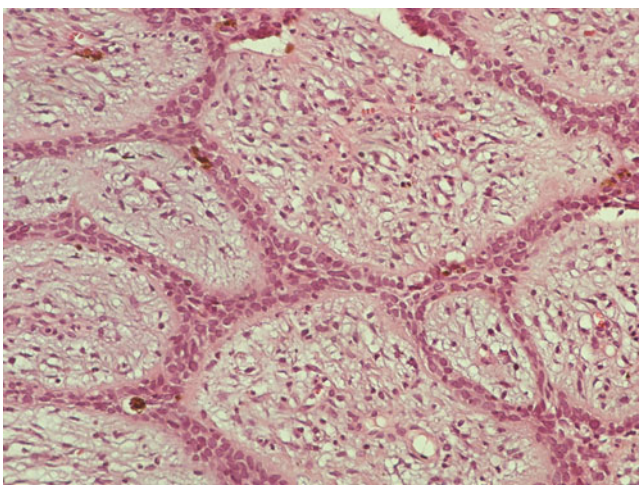

Fig. 2 Fibroepithelioma of Pinkus consisting of anastomosing strands of two to three basaloid cells that compartmentalize the fibrous stroma (H&E ×200)

Histopathologically, FOP consists of numerous elongated, thin anastomosing cords of basaloid or squamous cells, sometimes only two cells thick, surrounded by abundant fibrovascular stroma that extend downwards from the epidermis into the dermis and terminate in nubbins of basaloid cells [8, 9]. It is considered that these characteristics appear because FOP develops from the invasion of malignant basal cells along eccrine ducts that serve as template [11].

Some authors consider FOP to be a form of fenestrated trichoblastoma based on immunohistochemical and histopathological studies, that showed less expression of p53 oncogene and MIB-1 proliferative marker in FOP than in BCC [9] and because of the presence of Merkel cells in FOP that are absent in BCC but present in trichoblastoma [9, 12]. Also FOP does not seem to behave aggressively and the overall profile of the tumor is well circumscribed. However, others consider it to be a variant of basal cell carcinoma [3, 5, 8, 11, 13]. Evidence supporting the malignant nature of FOP are extension of the tumor into the dermis and subcutaneous tissue, composition of trichoblasts, a fenestrated growth pattern, foci of clefts between the tumor strands and fibrotic stroma, expression of androgen receptor in FOP and in BCC but minimally in trichoblastoma [10] and finally the occurrence of FOP in continuity with a nodular basal cell carcinoma [10]. Our case supports the hypothesis of FOP being a variant of BCC as there is continuity of FOP with nodular BCC.

As FOP is considered a variant of BCC, early detection and adequate treatment is necessary, with treatment options being similar to those of BCC. Treatment options include surgical excision, curettage and cautery, Mohs' micrographic surgery, cryotherapy, radiotherapy, photodynamic therapy, topical fluorouracil and topical imiquimod [1, 2].

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