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Original article

Atypical Presentation of Fibroepithelioma of Pinkus: A Case Report and Review of the Literature

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Abstract
Fibroepithelioma of Pinkus (FEP) is a slowly growing, low-grade malignant tumor with very low metastatic potential that is considered a distinct variant of basal cell carcinoma (BCC). It usually manifests as sessile or polypoidal lesions on the trunk of middle-aged patients. However, it may present in younger age groups, even in children. In this case, we present a rare case of FEP atypically presenting as a scaly plaque on the lower back for several years in an elderly female who was eventually diagnosed by excisional biopsy and histopathology.
Keywords: Fibroepithelioma of Pinkus, Basal Cell Carcinoma, Plaque.

Introduction

Fibroepithelioma of Pinkus (FEP) is a slowly growing, low-grade malignant tumor with very low metastatic potential that is considered a distinct variant of basal cell carcinoma (BCC). It constitutes about 0.2% to 1.4% of BCC cases, with the possibility of underreporting due to similarity to benign skin conditions [1]. It has been reported that FEP is associated with other cancers, such as gastrointestinal tumors, breast cancer, and mammary Paget's disease [2]. Despite being regarded as an indolent tumor with no potential for metastasis, FEP may be a sign of an underlying propensity to other cancers, according to certain research [3].

Unlike BCC, FEP is in a non-sun-exposed area, which argues against the role of ultraviolet radiation. Other suggested factors include advanced age, male sex, and genetic predisposition.

FEP resembles many benign skin lesions, and since most of these skin mimickers are benign, surgical removal of the tumor is not frequently performed [3]. In clinical settings, FEP usually manifests as a broad-based or pedunculated lesion on the trunk of middle-aged patients. Although it may present in younger age groups, even in children [4].

Although dermoscopy could be a useful diagnostic technique for differentiating it from other benign tumors [5]. The histopathological examination remains the gold standard diagnostic method, with immunohistochemistry supporting the diagnosis [6]. The treatment of FEP is essentially surgical, consisting of total excision of the tumor with clear margins, which leads to cure without recurrence. The Mohs surgical procedure is recommended for patients who need to preserve tissue, particularly in cosmetically sensitive areas. More recently, alternative trends in dermatological research were considered (i.e. topical imiquimod, photodynamic therapy), but these may be less popular due to FEP's usually indolent course. Genetic markers that may play a role in the development of FEP, its association with basal cell cancer have also been explored in some studies [7].

Fibroepithelioma of Pinkus continues to pose a diagnostic challenge, and its presentation as a plaque, as in the current case, is uncommonly reported. So, reporting this presentation and reviewing the literature for reported cases of this rare tumor can highlight the diverse presentation of this tumor and increase dermatologists' awareness of how a deceptively innocuous plaque can conceal a neoplasm with malignant potential.

Case Report

A 67-year-old female presented to the dermatology department at Al Sadar Medical City, Najaf, Iraq, with a slowly growing skin lesion for the preceding seven years on the lower back. There were no complaints regarding pain or itching of the skin lesion. The patient's medical history was otherwise unremarkable. Clinical examination revealed a sharply demarcated, scaly, erythematous plaque, measuring approximately 7 x 6.5 cm, situated in the lower back (Figure 1a). Dermoscopy examination showed an erythematous lesion with fine arborizing telangiectasias, dotted vessels, and whitish streaks (Figure 1a**)**. The patient did not seek medical attention during the 7-year duration, and nonmedical treatment had been taken. After demoscopy findings, an Incisional biopsy was performed, which showed features suspicious for tumor growth، so the lesion was surgically excised with wide margins under local anesthesia **(**Figure 2a**),** followed by the primary closure (Figure 2b) and by the application of antiseptic dressings. Postoperatively, the patient was well and was discharged with a set of follow-up instructions. Histopathologic examination of the excised cutaneous tumor showed Thin anastomosing strands of

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basaloid cells projecting downward from the epidermis into the dermis in a reticulated pattern (Figure 3). A final diagnosis of fibroepithelioma of Pinkus was made.

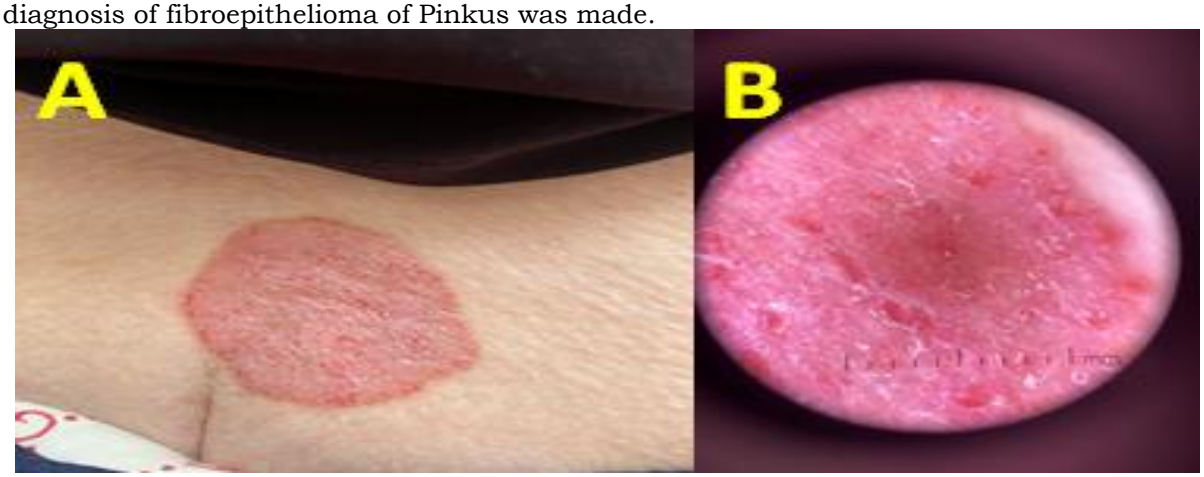

Figure 1. a: gross appearance as a well-demarcated erythematous scaly plaque in the lower back. b: Dermoscopy view revealed white streaks, dotted vessels, and telangiectasia.

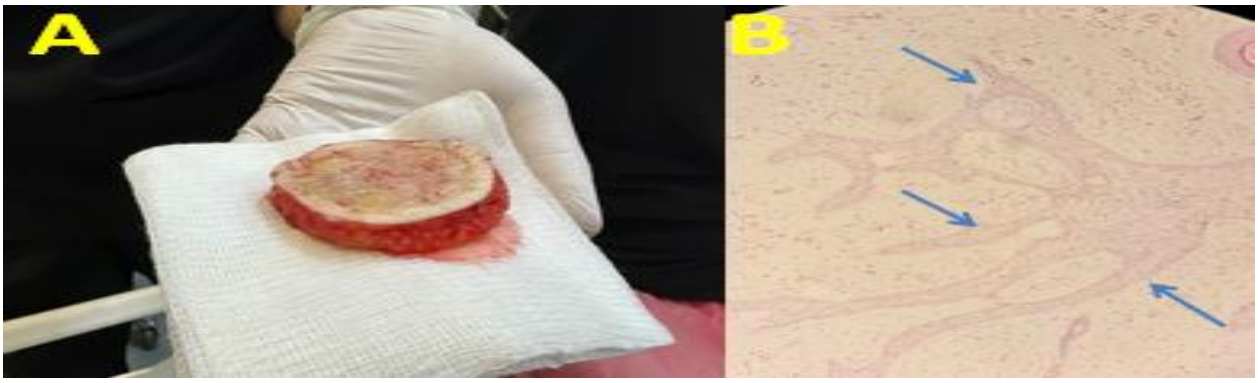

Figure 2. a: gross excised skin lesion. b: Histopathological section shows anastomosing strands of basaloid cells projecting downward in a reticulated pattern (blue arrows).

Discussion

FEP is regarded as an uncommon form of basal cell carcinoma (BCC), initially identified by Hermann Pinkus in 1953 as a premalignant variant of basal cell epithelioma; in terms of their levels of differentiation, they are comparable to trichoblastomas [6]. The current case was worth reporting as the tumor was rarely reported previously to present as plaque.

Two rarities presented in the current case: firstly, the Fibroepithelioma of Pinkus is a rare subtype of the basal cell carcinoma, and secondly, the unusual presentation of the lesion in this elderly female, which presents as scaly erythematous plaque diagnosed initially as eczema or psoriasis but unresponsive to medical and local treatment. The delay in the diagnosis of the current case is due to the similarity of this lesion with other benign skin lesions, like psoriasis.

Gender factor affects the incidence of a lot of diseases, including coronary artery diseases, certain types of bone tumors, and also dermatological conditions [8],[9] There is a controversy about the predominant gender affected by the tumor, as Bowen et al. demonstrate a slight female predominance (54%) while reviewing other published cases, summarized in (Table 2), revealed a male predominance [10].

Patients of all age groups are vulnerable, including children, but it has been demonstrated a tendency to affect old age patients, as much literature has identified advanced age as a risk factor for this tumor [11], [12].

The tumor commonly presented as a firm, dome-shaped, sessile, fleshy papule or nodule in the majority, while plaque was rarely a presentation for this tumor, as in (Table 1). Only 3 previous case reports described the plaque presentation in different age groups, one male and the other 2 were female patients. The three reported cases involved the trunk and back, which does not identify a predilection for a specific site of involvement for plaque presentation of FEP [13], [14].

The delayed diagnosis of FEP presented as plaque follows other presentations. This delayed diagnosis was attributed to a lack of suspicion, as it initially appeared to be a benign skin condition. The diagnosis mainly depends on histological exam, which is so characteristic that it could not be confused with other diagnoses [15]. This distinctive histology frequently obviates the need for further immunochemical staining [16]. Recently, advanced imaging methods like reflectance confocal microscopy and dermoscopy have proved to be of value in increasing the accuracy of diagnosis [17].

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Baldin et al reported a case of (FEP)who presented 76 years 76-year-old patient who also showed plaque with papillomatous erythematous center but a slight center lasting for 6 months, in contrast to the current case, which has a longer history of about 7 years, indicating the indolent course of the disease [6]. The absence of pain and itching, the solitary nature of the lesion, and its position in the lower back made the lesions difficult to detect early.

Table 1: Summary of reported cases of Fibroepithelioma of Pinkus presenting as plaque.

-	Authors	year	Age (Year)	gender	presentation	location	duration
1	Scalvenzi et al.[13]	2008	13	female	red-pinkish plaque with two small areas of ulceration	trunk	5 years
2	P. Zamberk-Majlis et al[18]	2009	75	female	erythematous plaque covered by a scab and perilesional erythema	trunk	Several years
3	Kornreich et al.[14]	2016	70	Male	well-circumscribed, oval, pink plaque	back	1 year

Table 2: summary of reported cases of Fibroepithelioma of Pinkus

-	**Authors**	**year**	**Age (Year)**	**gender**	**presentation**	**location**	**duration**
1	Su et al. [11]	2006	88	Female	slowly enlarging growth	suprapubic area	8 years
2	Pan et al. [19]	2008	9	Male	6.0-mm polypoid erythematous nodule with ulceration	left chest	-
3	Tarallo et al. [12]	2011	75	Male	pigmented lesion with a history of several excised BCC.	Back of the dorsal region	One year
4	Kornreich et al.[14]	2016	51	female	well-circumscribed, smooth, pink papule with an area of hyperpigmentation at one pole	right antecubital fossa	2 years
5	Inskip et al. [20]	2016	83	Male	out two adjacent soft, exophytic lesions. history of BCC	superior aspect of the umbilicus	7 years
6	Mihai et al. [21]	2017	88	Male	sharply demarcated, pink, exophytic cutaneous tumor	left inguinal region.	5 years
7	Aoyagi N et al [22]	2017	83	female	solitary, dome-shaped, pinkish nodule	lateral side of the left hand	3 years
8	Pollard et al. [23]	2018	77	Male	2-cm non-tender rubbery light pink nodule with rolled borders, central ulceration, and crusting, history of BCC	Left posterior ear	Several months
9	Baldin [6]	2022	76	-	papillomatous with erythematous center	Lower back	6 months
10	Nejjari [24]	2024	65	Male	well-limited, centimetric, asymptomatic, pinkish nodular lesion	right occipital region	Several months

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Conclusion

The diagnostic difficulties caused by the variable clinical morphology and subtle histopathological features of fibroepithelioma of Pinkus are highlighted by its atypical presentation. This variability frequently results in delayed recognition or incorrect diagnosis, particularly when lesions appear in immunocompromised individuals or in unusual anatomical locations.

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