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Infiltrative basal cell carcinoma mimicking tinea corporis

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Abstract

The diagnosis of infiltrative basal cell carcinoma (BCC) can be delayed owing to its often subtle clinical findings. A 90-year-old woman presented with an asymptomatic annular pink plaque on her left shin that was clinically diagnosed as tinea corporis. After years of not responding to topical anti-fungal therapy, biopsies confirmed a diagnosis of infiltrative BCC. We discuss the differential diagnosis of the case, the difficulties in identifying infiltrative BCC, and the pathologic features of infiltrative BCC.

Keywords: infiltrative basal cell carcinoma, tinea corporis

Introduction

Basal cell carcinoma is the most common human cancer and the most common skin malignancy amongst light-skinned individuals with a strong correlation to ultraviolet radiation exposure and age [1, 2]. Infiltrative BCC is a more locally aggressive and destructive subtype of BCC that classically presents as light-colored atrophic macules that evolve over time, becoming pearly indurated plaques ranging in color from red to white with overlying telangiectasias. These subtle characteristics commonly mimic scars or benign telangiectasias that may lead to misdiagnosis and delay in appropriate management. We report an atypical presentation of infiltrative basal cell carcinoma localized on the shin that mimicked tinea corporis.

Case Synopsis

A 90-year-old woman with a history of melanoma-in-situ of the eyelid and basal cell carcinoma of the nose

presented with an annular pink plaque of the left shin (**Figure 1**). The plaque had been present for over eight years and was asymptomatic. She had been followed in the dermatology clinic for over five years and had seen three dermatologists over that period.



Figure 1. Patient presented with large plaque on her left shin that had an erythematous advancing border and central clearing.

Clinically, the plaque had an advancing edge that was approximately 1 cm in diameter; the overall size of the plaque was more than 10 cm in diameter. The advancing border had no scaling and there were scattered pink plaques within the border in addition to central clearing. No pustules were noted. A diagnosis of tinea corporis was made on clinical appearance alone. The patient completed a four-week course of sertaconazole 2% cream twice daily for four weeks with no response. Additional treatment included a two-week course of naftifine 2% cream twice daily with no improvement.

The patient felt the plaque was slowly enlarging over the course of years despite topical therapies. The differential diagnosis included tinea corporis, granuloma annulare, interstitial granulomatous dermatitis, and erythema annulare centrifugum. Two shave biopsies and one punch biopsy were performed at the medial, lateral, and inferior edges of the plaque. All three biopsies identified infiltrative basal cell carcinoma (**Figure 2**). To prove that the entire lesion was infiltrative BCC, two additional punch biopsies were performed within the area of central clearing and were also diagnosed as infiltrative basal cell carcinoma.

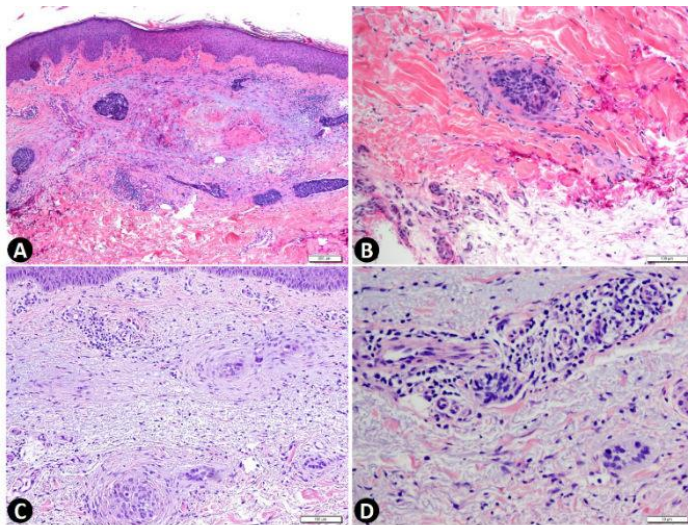


Figure 2. Histopathologic examination of the left shin skin biopsy (**A** and **B** from 2016; **C** and **D** from 2017): Nests of atypical basaloid keratinocytes demonstrating peripheral palisading and cleft formation infiltrating the superficial and deep dermis. The epidermis is spared. H&E, 40× (**A**), 100× (**B, C**), 200× (**D**).

The options of surgery, radiation therapy, vismodegib, or observation were evaluated. Owing to the size of the tumor and her age, a debilitating surgery was eliminated. She is considering radiation.

Case Discussion

This case was complicated by an unusual presentation of BCC. In addition, the asymptomatic nature, lack of ulceration, and large size likely contributed to the delay in diagnosis. This case presents as a cautionary example of a patient with an unusual presentation of infiltrative basal cell carcinoma presenting clinically as tinea corporis. Owing to the size of the lesion, surgery with the intention of cure would result in significant disability.

The diagnosis of infiltrative BCC can be particularly challenging because of its often subtle and diverse presentation. Not uncommonly it presents as an ill-defined, thin, or depressed papule or plaque with telangiectasias. It frequently mimics a scar. More unusual presentations include a linear plaque, chronic ulceration on lower extremity or toenail fold, and as erythematous gritty keratoses suggesting actinic keratoses [1-4]. Clinical features of these cases often simulate other disease processes, resulting in misdiagnosis and delay in reassessment owing to a low index of suspicion for malignancy. Key features leading to reevaluation were resistance to treatment and continued expansion of lesions, as seen in this case.

Conclusion

Through this case and others cited in the literature, it is noted that infiltrative BCC can have unsuspected presentations. Although it is unusual for BCC to present with clinical features similar to tinea corporis, BCC should be considered in the differential diagnosis of any erythematous plaque-like lesion with a prolonged history of being unresponsive to treatment. Dermatologists should have a low threshold for biopsy, which should lead to timely diagnosis and prompt, appropriate treatment.

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