

Case report

Bilateral heel eccrine syringofibroadenoma treated with serial cryotherapy

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Abstract

Eccrine syringofibroadenoma (ESFA) is an uncommon benign adnexal neoplasm. Although it most frequently manifests on the lower extremities, particularly at acral sites, its various subtypes can result in diverse clinical presentations. Here, we report the case of a 49-year-old male presenting with a 14-year history of bilateral heel lesions. The right heel exhibited a hyperkeratotic, erythematous, and edematous plaque with focal erosion that had progressively worsened, accompanied by a burning sensation and intermittent serous discharge. Histopathological analysis revealed anastomosing epithelial cords with eccrine ductal differentiation within a fibrovascular stroma, thus confirming the diagnosis of ESFA. Due to the weight-bearing nature of the bilateral heel involvement, which posed considerable challenges for postoperative wound care, serial cryotherapy was chosen for this case. Following multiple sessions, the lesions exhibited substantial regression, characterized by plaque softening and localized scar formation.

Keywords: Adnexal tumor, cryotherapy, eccrine syringofibroadenoma, ESFA, syringofibroadenoma.

Eccrine syringofibroadenoma (ESFA) is a rare benign skin neoplasm that is characterized by eccrine ductal differentiation and was first described in 1963 by Mascaró.⁽¹⁾ It most commonly involves the feet and lower legs.⁽²⁾ Diagnosis relies on clinicopathologic correlation because the clinical appearance can mimic that of other chronic hyperkeratotic or verrucous disorders, such as tuberculosis verrucosa cutis and squamous cell carcinoma.⁽²⁾ Here, we report a case of bilateral heel ESFA with a favorable response to serial cryotherapy.

Case report

A 49-year-old male presented with a 14-year history of lesions on both heels. The right heel lesion gradually enlarged and was associated with a burning sensation and intermittent mild serous oozing. Previous topical treatments provided no improvement. Moreover, he had no underlying diseases and was not taking regular medications.

Upon examination, the right heel exhibited erythematous papules coalescing into a well-defined erythematous, edematous plaque with irregular borders and erosion, measuring approximately 6–7 cm (**Figure 1A and 1B**). In addition, the left heel showed a small erythematous edematous papule/plaque measuring approximately 0.5 cm (**Figure 1C**). No regional lymphadenopathy was noted.

An incisional biopsy from the right heel revealed mild epidermal acanthosis and the proliferation of thin, anastomosing reticulated epithelial cords forming a lattice extending from the epidermis into the dermis within a fibrovascular stroma, with ductal formation consistent with eccrine differentiation (**Figure 2A–C**). These findings supported the diagnosis of ESFA.

Given that the lesion was located on a weight-bearing area and that there were anticipated challenges in postoperative wound care, serial cryotherapy was selected. Cryotherapy sessions were performed at approximately 1-month intervals. After 14 sessions, the patient reported marked symptom relief and substantial clinical improvement; some areas of the lesion had softened and resolved into scar tissue.

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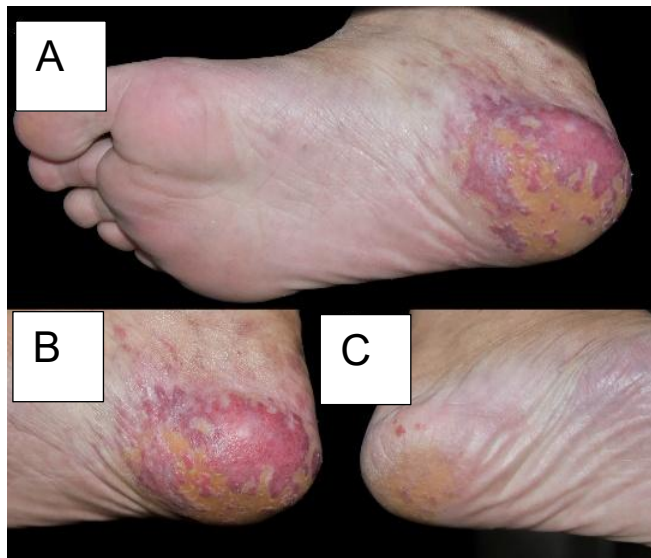


Figure 1. (A, B) Clinical appearance of the right heel showing a well-defined erythematous, edematous plaque with irregular borders and erosion on the right heel (approx. 6–7 cm), (C) edematous papules to small plaques on the left heel.

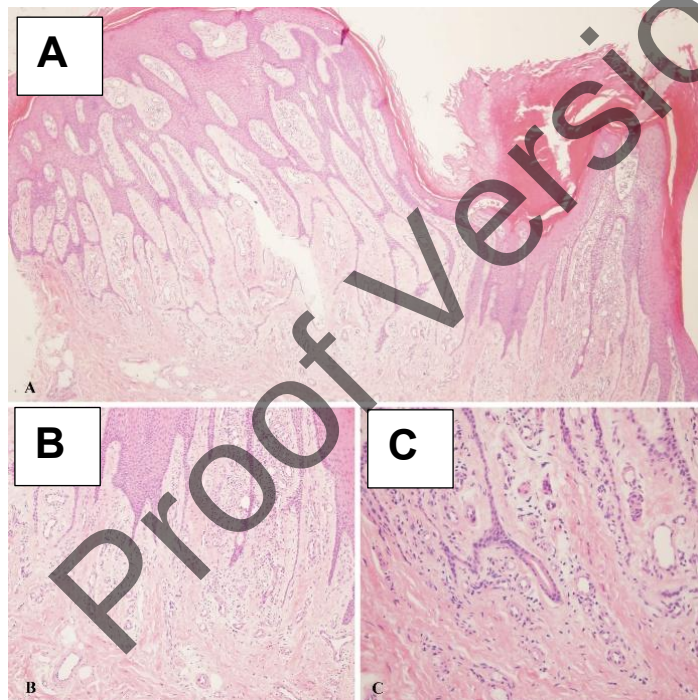


Figure 2. Histopathology showing mild acanthosis of epidermis with proliferation of thin, anastomosing reticulated epithelial cords forming a lattice, extending from the epidermis into the dermis, along with fibrovascular stroma and ductal formation, consistent with eccrine syringofibroadenoma. (Hematoxylin and eosin stain; (A) 40x, (B) 100x, and (C) 200x).

Discussion

ESFA is a rare benign neoplasm that differentiates from the eccrine duct and was first reported by Mascaró in 1963.⁽¹⁾ The exact etiology of this hyperplasia remains unclear, and epidemiologically, there is no sex predilection. The age of onset varies by subtype, but most cases occur in the elderly.⁽³⁾

Clinically, ESFA most commonly affects the feet or lower legs, though it may also involve the face, trunk, palms, and nails.⁽²⁾ ESFA is categorized into five variants: (1) solitary ESFA, presenting with a solitary

verrucous nodule on distal extremities; (2) multiple ESFA with Schöpf syndrome (ectodermal dysplasia) characterized by eyelid hydrocystomas, hypotrichosis, hypodontia, and nail abnormalities; (3) multiple ESFA without other cutaneous features, also referred to as syringofibroadenomatosis; (4) unilateral linear ESFA or nevroid ESFA; and (5) reactive ESFA, which is associated with chronic inflammatory or neoplastic dermatoses, such as long-standing diabetic ulcer, burn scars, bullous pemphigoid, erosive lichen planus, or squamous cell carcinoma.⁽²⁻⁶⁾

Histologically, the lesion exhibits anastomosing epithelial cords extending from the epidermis into the dermis, forming a reticulated pattern with ductal differentiation, accompanied by fibrovascular stroma.⁽²⁻⁵⁾ Clear cell changes may be seen, and palisading of tumor cells, as in basal cell carcinoma, is absent.⁽³⁾ Clinical differentials include tuberculosis verrucosa cutis, squamous cell carcinoma, atypical mycobacterial infections, and fungal infection.⁽²⁾ Histopathological differentials include fibroepithelioma of Pinkus, eccrine poroma, acrosyringal nevus, syringofibroadenocarcinoma, squamous cell carcinoma, and reticulated seborrheic keratosis.^(2, 5)

Although ESFA is generally benign, rare instances of malignant progression into eccrine syringofibroadenocarcinoma have been reported.⁽²⁾ Surgical excision is the treatment of choice.⁽²⁻⁵⁾ However, other treatments have also been employed, including cryotherapy, radiotherapy, and carbon dioxide laser ablation.^(7, 8)

The lesion number, location, and resectability should be considered when selecting treatment.⁽⁸⁾ Given the weight-bearing location and anticipated challenges in postoperative wound care, serial cryotherapy was selected in this case. This approach led to marked symptomatic and clinical improvement after 14 sessions, with partial plaque softening and scar formation. Continued follow-up is advisable, given the rare reports of malignant transformation.

Conclusion

This case reports a rare presentation of bilateral ESFA of the heel. While surgical excision is the treatment of choice postoperative wound care can be challenging in weight-bearing areas such as the heel. Our case demonstrates that serial cryotherapy is a safe and effective alternative, providing significant clinical improvement while preserving the patient's ability to walk. When the surgical risk or morbidity is high due to the lesion location, non-invasive options may be considered to minimize complications and maintain the patient's quality of life.

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Author contributions

PK contributed substantially to the study concept and design, data acquisition, literature review, and data

analysis and interpretation. JW contributed substantially to data acquisition. PK drafted the manuscript. WK edited the manuscript critically for important intellectual content. All authors approved the final version submitted for publication and take responsibility for statements made in the published article.

Conflict of interest statement

None

Data sharing statement

Data generated or analyzed for the present report are included in this published article. Further details are available from the corresponding author on reasonable request after deidentification of the patient whose data are included in the report.

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