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A Painful Step - Pendulating Plantar Eccrine Poroma

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Abstract

BACKGROUND: Eccrine poroma is a benign tumour of eccrine duct epithelium. The usual clinical presentation is nodular.

CASE REPORT: We present a 78-year-old man with a painful pendulating flesh-coloured malodorous plantar tumour. Differential diagnoses included telangiectatic granuloma, acrochordon, basal cell or squamous cell carcinoma, cylindroma, amelanotic melanoma, and verruca. Microbiological investigations identified numerous bacteria including Corynebacterium striatum, Streptococcus dysgalactiae, Staphylococcus aureus, Citrobacter koseri. We performed surgery since the tumour hampered his mobility. Histopathology revealed a well-circumscribed tumour composed of cuboidal cells with eosinophilic cytoplasm. Healing was unremarkable.

CONCLUSIONS: Pendulating plantar eccrine poroma is a rare clinical presentation of this benign adnexal tumour. Often asymptomatic, in some cases the tumour may become painful. Because of the bacterial colonisation, it could lead to deep soft tissue infections. Malignant transformation is possible. Surgical removal is the treatment of choice.

Introduction

Eccrine poroma is a benign adnexal tumour of the skin. It originated from the sweat duct epithelium. The first description came from Hermann Pinkus et al., in 1956 [1]. The typical clinical presentation is a dome-shaped nodule or plaque, often flesh-coloured by sometimes pigmented. It occurs most commonly on hand and feet. The typical poroma is a slow-growing, asymptomatic lesion [2].

Histologically, it is composed of poroid or cuboidal cells and is well circumscribed. The solid tumour masses correspond to each other by anastomoses creating an epithelial network. In contrast to basal cell carcinoma, no palisading occurs in the periphery. Tumours may be intraepidermal or dermal. Their cytoplasm is periodic acid-Schiff-positive. Mitoses may occur. Ductal differentiation occurs to a variable degree. The tumour stroma is highly vascularized.

There are several subtypes like poromatosis, linear eccrine poroma or porokeratotic eccrine ostial and dermal duct nevus, among others [3]. About 18% of poromas may transform into malignant porocarcinoma [4]. This is accompanied by harbouring ultraviolet light-induced mutations in TP53 and other tumour suppressor genes [5].

Eccrine poromas are uncommon tumours. Exophytic, pendulating poroma is very unusual.

Case Report

A 78-year-old man presented with a plantar tumour because of painful steps. He was otherwise healthy.

On examination, we observed a malodorous pendulating, flesh-coloured tumour on the right foot. The plantar lesion measured 2.5 x 2 cm with a basis of 5 mm (Figure 1).

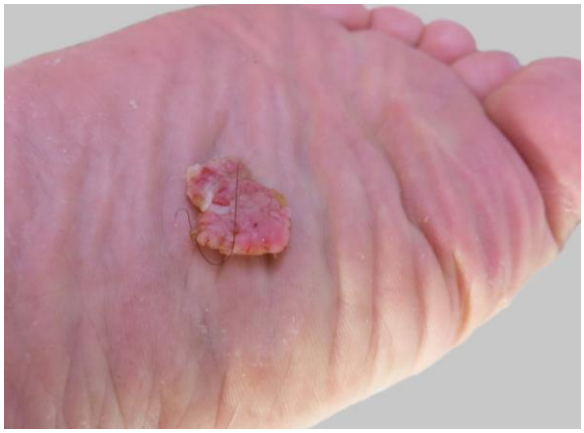

Figure 1: Pendulating tumour on the sole – eccrine poroma

Laboratory: Erythrocytes 4.42 (4.6-6.2 Tpt/l), MCV 104.8 (80-96 fl), MCH 2.13 (1.75-2.05 mmol/l), myelocytes 1%, lymphocytes 19% (25-45%), lactate dehydrogenase 3.84 (2.35-3.75 µkat/l).

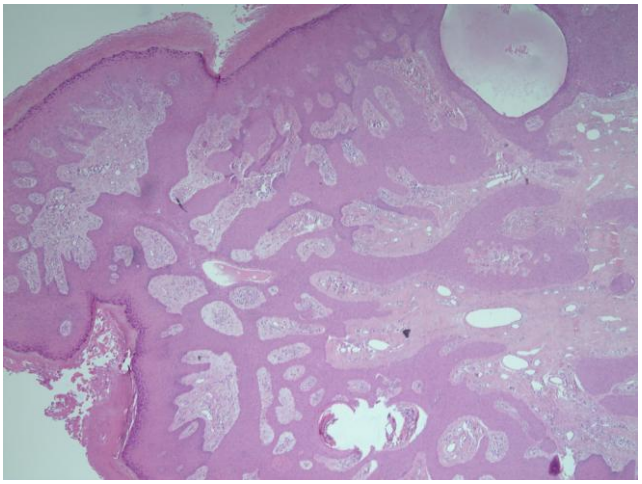

Figure 2: Histopathology of eccrine poroma with solid tumor formations composed of monomorphous cells, well circumscribed (HE x 2)

Microbiology from the tumour: *Corynebacterium striatum, Streptococcus dysgalactiae, Staphylococcus aureus, Citrobacter koseri*.

Imaging: Diagnostic ultrasound from abdomen and groins revealed a 16 mm large lymph node with the preserved structure in his right groin.

Histology: A well-circumscribed polypoid exophytic tumour was seen, which was composed of monomorphous cuboidal cells with ductal differentiation and well vascularized fibrous stroma: no cellular atypia, no atypical mitoses (Figure 2).

The diagnosis of an eccrine poroma was made.

The tumour was removed surgically in local anaesthesia. Healing was unremarkable, and the patient became pain-free (Figure 3). The malodor was completely eradicated.

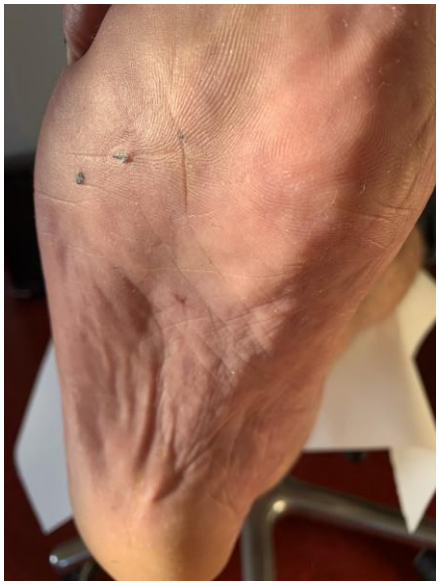

Figure 3: Complete healing after R0 surgery

Discussion

Eccrine poroma is a benign adnexal tumour commonly but exclusively seen on hand and feet [6]. The clinical presentation as a pendulating polypoid lesion is very unusual. This raised a variety of potential differential diagnoses such as teleangiectatic granuloma, achrocordon, basal cell or squamous cell carcinoma, cylindroma, amelanotic melanoma, and verruca [2]. Histology provided the clue and confirmed an eccrine poroma.

On immunohistochemistry, we could demonstrate earlier that poromas disclosed some scattered S100-positive dendritic cells, red-stained cells in Lapham's method, and several silver-impregnated dendritic cells. The labelling with wide spectrum keratin antiserum was low compared to epidermal keratinocytes. Calmodulin known from eccrine sweat gland ducts could be found in poromas. In contrast, malignant porocarcinomas expressed a greater variety of cellular markers than benign poromas but failed to stain for calmodulin. The differentiation of both tumours, however, was directed toward inner duct cells and myoepithelium. Since

myoepithelial cells are missing in normal acrosyringium, poromas and porocarcinomas are thought to be sweat gland tumours related to the distal portion of the dermal duct [7], [8].

The malodor was related to bacterial contamination of the lesion by *Corynebacterium striatum, Streptococcus dysgalactiae, Staphylococcus aureus, Citrobacter koseri*. This is not only unpleasant but bears the risk of deep soft tissue infection [9]. Complete excision is the treatment of choice for poroma to prevent malignant transformation and deep soft tissue infections.

In conclusion, eccrine poroma of the sole is not uncommon, but pendulating tumours are extremely rare. They can be painful and possess a risk for deep soft tissue infections. Complete excision is the treatment of choice.

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