

Recurrent case of pitted keratolysis

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Abstract

Pitted keratolysis is a disorder of the stratum corneum of the skin caused by gram-positive bacteria. We present the case of a 27-year-old male working in a resort, with recurrent episodes of macerated lesions, depressions, and irregular shapes affecting both soles of his feet.

Keywords: Pitted keratolysis; Treatment; Dermatology; Foot infections; Gram-positive bacteria

1. Introduction

Pitted keratolysis is a superficial bacterial skin infection that primarily affects the soles of the feet and, less frequently, the palms of the hands, confined to the stratum corneum. This condition is caused by an infection of the stratum corneum by *Kytococcus sedentarius* (formerly *Micrococcus spp.*), although *Dermatophilus congolensis* and species of *Corynebacterium* have also been implicated (Fernández-Crehuet and Ruiz-Villaverde, 2015). The bacteria proliferate and produce proteases that destroy the stratum corneum, producing the characteristic craters or pits. The associated malodor of pitted keratolysis is due to the production of sulfur compounds (Bristow & Lee, 2014). It primarily affects young people between 21 and 30 years old and is common among those who require occlusive footwear, such as athletes (De Almeida *et al.*, 2016).

2. Material and methods

This review article does not involve experimental studies; therefore, there are no specific materials and methods to describe. However, a representative clinical case is presented.

3. Case Report

A 27-year-old male patient presented with a recurrent condition of foot odor, maceration, and excavated lesions on both feet causing (Figures 1 and 2) burning sensations when walking. The patient reported working in facilities with pools, where his feet were constantly wet. This was his third episode with the same symptoms. He had previously been treated with talcum powder to keep his feet dry and antifungal cream, with poor results. Physical examination revealed excavated lesions on both soles, resembling punched-out areas with thin borders, without scaling or signs of inflammation. The lesions coalesced into large groups forming patches (Figures 1 and 2).

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Figure 1 Right foot displaying macerated lesions coalescing into extensive plaques. These lesions present a whitish appearance with sharply elevated edges.



Figure 2 Left foot showing rounded lesions with elevated edges coalescing into plaques on the sole. The lesions exhibit the characteristic crater-like appearance of pitted keratolysis, merging to form larger, irregular plaques.

4. Discussion

The primary change in pitted keratolysis is the absence or secondary reduction of the stratum corneum. Clinically, the lesions are crater-like pits that merge to form erosive areas of irregular shapes and sizes, as reported in this case. It is generally asymptomatic and may be accompanied by bromhidrosis and burning sensations. Moisture is an aggravating factor, often caused or associated with hyperhidrosis. It is common in athletes and workers who wear rubber boots for long periods (De Almeida *et al.*, 2016). The prevalence among dairy industry workers is estimated at 10%. Treatment is based on topical antibiotics such as clindamycin, erythromycin, fusidic acid, and mupirocin, and avoiding foot moisture if possible. Systemic antibiotics may also be prescribed, especially for resistant cases (Greywal & Cohen, 2015; Saravanan & Baalann, 2022).

5. Conclusion

In conclusion, pitted keratolysis is a treatable condition with an excellent prognosis if managed appropriately. Maintaining good hygiene and the proper use of topical antibiotics are fundamental for successful treatment.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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