



ISOLATION OF KYTOCOCCUS SEDENTARIUS FROM A CASE OF PITTED KERATOLYSIS

BİR PİTTED KERATOLİZİS OLGUSUNDAN KYTOCOCCUS SEDENTARIUS İZOLASYONU

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ÖZET

Pitted keratolizis (PK) çeşitli etkenlerin neden olduğu, primer olarak ayakları nadiren de palmar bölgeyi etkileyen enfeksiyöz bir hastalıktır. Yirmi iki yaşında erkek hasta, ayağın plantar yüzünde, özellikle de topuklarda olan, tipik krater benzeri çukurcuklarla başvurdu. Deri kazıntı örneğinde direkt bakıda gram (+) kokkular görüldü ve kültürde Kytococcus sedentarius izole edildi. Oral eritromisin ve topikal fusidik asid krem tedavisi ile üç haftada tam iyileşme elde edildi.

SUMMARY

Pitted keratolysis (PK) is an infectious disease primarily affecting the feet and, occasionally, the palms of the hand associated with various causative agents. A 22-year-old man presented with PK, demonstrating the typical crateriform pits on the plantar surface of the feet, mainly on heels. On skin scraping, Gram(+) cocci were demonstrated, and in the culture Kytococcus sedentarius was isolated. Complete clearance occurred following a three-week administration of oral erythromycin and application of topical fusidic acid cream.

INTRODUCTION

PK is a superficial skin infection which produces asymptomatic pits of the stratum corneum and usually involves soles of the feet and, occasionally, the palms of the hand as collarettes of scale (1). This bacterial infection was initially named keratoma plantare sulcatum by Castellani in 1910, but the name was changed to pitted keratolysis by Taplin and Zaias in 1967 (2). The disease was first seen in those who went barefooted during rainy season (3). PK occurs worldwide. It can be seen in both tropical and temperate environments.

CASE REPORT

A 22-year-old man presented with asymptomatic, discrete, circular lesions localizing in the plantar region, mainly on the heels with a punched-out appearance and typical crateriform pits (Fig 1). The patient was complaining about malodor of the foot and regularly going to the swimming pool. The physical examination of the patient was normal. In Gram-stained scrapings, Gram-positive cocci were observed. We cultured an organism identified as Kytococcus sedentarius on the basis of colonial morphology, micromorphology (Gram+ coccus),

biochemical reactions (oxidase+, mannitol+). Micrococcus is susceptible to Bacitracin and Erythromycin. Aerobic cultures on blood agar showed tiny, muddy-yellow colonies without hemolysis after 24 hour of incubation. After 48 hour the size of colonies increased, a feature typical of Kytococcus sedentarius, which is known to grow more slowly than other members of the micrococcus genus (4).

The patient was put on oral erythromycin and topical fusidic acid. Complete clearance occurred following a three-week treatment.

DISCUSSION

PK is a superficial infection of the skin producing circular erosions on the soles. Severe cases were more frequently reported in tropical regions but rarely seen in temperate ones. Both males and females should be affected; however, most written case reports or studies have involved male patients (2,3).

Although PK of the foot is generally considered to be caused by bacteria, there is confusion regarding the identity of the causative organism species of Corynebacterium (5), Actinomyces, Dermatophilus (6) and Micrococcus (7) have been proposed by various investigators. Under appropriate conditions these bacteria

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proliferate and produce proteases that destroy the stratum corneum, creating pits (8,9).



Figure 1. Planter crateriform lesions of the patient.

There are numerous superficial erosions of the horny layer of the soles and the under-surfaces of the toes. All parts of both soles may be affected. The disease is often associated with hyperhidrosis and sometimes with a

malodor. The malodor associated with PK is presumed to be the production of sulfur-compound by-products, such as thiols, sulfides, and thioesters (2,3,9). Foot odour and sliminess as well as soreness and itching may occur (9). Rarely palmar lesions may be seen. Clinical diagnosis is not difficult, based on its unique appearance (1,10). In the biopsy taken from the lesions, the presence of the microorganisms in the walls and bases of the crateriform defects in the upper layer of the stratum corneum has been observed (3). In differential diagnosis, hyperhidrosis, erythrasma and tinea pedis have to be considered, but the lesions are easily recognisable (2). In the treatment of the PK, treatment of hyperhidrosis, sodium fusidate ointment are recommended. Imidasoles, topical and oral antibiotics, such as erythromycin or clindamycin are curative (2,10). It has been reported that the skin with as well as without lesions contains bacteria; therefore, medication must be applied to whole surface of the soles (10). In our patients, who had typical PK lesions, *Kytococcus sedentarius* was isolated in the culture. After three-week of treatment complete clearance was observed.

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