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IMAGES IN CLINICAL PRACTICE

TUNGIASIS - A THREAT TO THE TRAVELERS FEET

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An 11-year-old boy presented with a 3 day history of a painful pale-yellow papule with a dark brown center, 2 mm wide, on his left second toe. There were no other inflammatory signs. He had just returned from Sao Tome and Principe in Africa, where he walked barefoot on the beach.

Physical removal of the pigmented part of the lesion and flea eggs was performed as well as local wound care. Up to date tetanus vaccination was confirmed. He had a full recovery with no complications.

Figure 1. Pale-yellow papule with a dark center (diameter, 2 mm) in the second toe of the left foot, before flea removal.

Figure 2. Residual cavity (diameter, 2mm) in the second toe of the left foot, after removal of the flea and eggs.

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What is the diagnosis?

Given the travel history and the typical morphology and location of the lesion, the diagnosis of Tungiasis was considered in this case. Tungiasis is a skin infestation caused by a sand flea (Tunga penetrans). It is endemic in tropical areas in Africa, the Caribbean, Central and South America, especially where there is lack of basic sanitation. In some areas, its prevalence may reach more than 50% of the population and can be higher in children. In developed countries it is a travelers' disease.[1] Contamination with Tunga penetrans occurs by direct contact of the skin with the sandy soil where it grows from larvae into fleas. Tungiasis can affect any part of the skin, but the lesions are most often located in the periungual, interdigital or plantar regions of the feet.[1,2]

Clinical signs of infection depend on the parasite's life cycle and evolve in 5 stages according to the Fortaleza classification.[3] Initially the female parasite penetrates the epidermis of the host, causing local erythema, pruritus or pain (stage 1). In one or two days, as the parasite grows, leaving its posterior end outside the skin, a small dark dot appears (stage 2). The parasite's abdomen enlarges and it grows hundreds of eggs, becoming more clearly visible as a light-yellow papule with a dark center, surrounded by erythema (stage 3). After expulsion of the eggs during three to five weeks, the flea dies and the involuted lesion is covered with a black crust (stage 4). If the host is able to expel the carcass of the parasite a round residual depression remains in the skin for several months (stage 5).[3,4]

The diagnosis is made based on clinical findings and epidemiological context and it may be confirmed by histologic examination of the lesion.[5] Differential diagnosis includes vulgar wart, foreign body reaction, paronychia, myiasis, cercarial dermatitis, scabies or sting by another arthropod.[1,4,5]

Severe complications may occur due to bacterial superinfection, namely Tetanus, ulcers, abscesses, cellulitis, phlegmon, gangrene, osteomyelitis, thrombophlebitis or lymphangitis.[2,6]

The treatment of choice in uncomplicated cases consists of complete physical removal of the flea and the remaining cavity in sterile conditions, local wound

care and anti-tetanus prophylaxis, if indicated. In case bacterial superinfection is suspected, antibiotics are recommended.[5]

Travelers to endemic areas should wear shoes to avoid Tungiasis and this diagnosis must be considered upon their return.[5]

Compliance with Ethical Standards

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Conflict of Interest: None

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