

Severe Tungiasis Case on a Resident of a Peri-urban Area on the Municipality of Vilhena, Rondônia, Western Amazon

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Abstract

We present a recent report of a severe tungiasis case identified on a municipality in the amazon region. Despite being prevalent in endemic areas, severe infections with more than 100 embedded sand fleas are uncommon. We report a severe infection diagnosed in a 48-years-old male patient where about 150 embedded sand fleas were removed from both feet. The patient presented severe inflammation and pain which associated with the intense infection increase morbidity.

Keywords: *Tunga penetrans*; Severe tungiasis; Embedded sand fleas; Amazon

Introduction

Tungiasis is a neglected tropical disease caused by the penetration of female sand fleas (*Tunga penetrans* and also *Tunga trimamillata* in some areas) into the skin [1]. This disease is most prevalent in resource-poor communities such as Latin America, Caribbean, sub-Saharan Africa and Madagascar, being considered an “exotic” pathology in rural inhabitants [2] In Brazil, the occurrence is commonly limited to rural areas or indigenous populations such as the Yanomami in Roraima State [3]. This zoonosis affects humans and domestic animals being most frequent affected dogs, cats and rats. The presence of these infected animals in addition to poor hygiene practices, including inappropriate waste disposal, are considered risk factors [4]. In endemic regions, the infection affects mostly children (aged 5-14 years), and elderly people [5].

It's also reported that Tungiasis is a commonly reported skin infections among travelers returning from endemic areas [6]. Whoever, accurate information about the estimated prevalence is not available since many cases remain unreported [4]. Light infections, with 5 to 10 embedded sand fleas are predominant at endemic areas, nonetheless, reports on severe infections with a hundred or more embedded sand fleas are scanty in recent years [1]. These severe cases affect mainly feet, but it can also affect ankles, knees, elbows, hands, fingers and around the anus [1]. The infection results in intense inflammation response, itching, secondary bacterial infections and could lead to potentially life-threatening complications such as sepsis gangrene and tetanus [1,6].

Case Report

A 48-years-old male patient, resident on a peri-urban area of the municipality of Vilhena, Rondônia, check in on the Emergency room with severe inflammation, pain and multiple Yellow-Brown Papules with dark central dots on several fingers, toes, and interdigital folds on both feet (Figure 1). Given the highly representative morphology and distribution, a diagnosis of severe *Tunga* infestation was made. He had a blood pressure of 120/90mmHg, heart rate of 102 beats/minute, temperature of 36 °C and weight of 60kg. It was applied 0,9% saline

solution, 2% chlorhexidine and 3% hydrogen peroxide followed by the manual removal of embedded fleas. About 150 embedded sand fleas were removed from both feet by soft tissue debridement (Figure 2), and it was given orientations to the patient to perform the immersion of each foot on diluted creolin. After the procedure,

it was prescribed Tramadol to pain relief, vitamin supplementation, antibiotic therapy with Cephalotin and ivermectin (0.15mg/kg). Also, tetanus vaccine was given as recommended by the Health Ministry (MS).



Figure 1: Tungiasis Characterized by Multiple Yellow-Brown Papules at the Toes.



Figure 2: Eggs after surgical removal.

Discussion

The manuscript presents a severe Tungiasis case, reported in recent times in a municipality of western Amazon. Severe infections with a hundred or more embedded sand fleas have not been commonly registered on the last few years and, in Brazil, have been associated to indigenous populations when reported. Tungiasis represents a neglected disease that causes significant morbidity and is frequently associated with poor quality of life [7]. In severe cases, bacterial infections are common such as *Staphylococcus aureus* or enterobacteria; anaerobic agents, such as *Peptostreptococcus spp* and *Clostridium spp*; lymphangitis; tetanus; and gangrene [6]. Other complications are loss of nails, disfigurement of the feet, and ulcers with extended tissue necrosis, causing difficulty in walking, auto-amputation of digits, and immobility [4]. Furthermore, people affected with those severe cases commonly suffer stigmatization and social isolation affecting their self-esteem and health-seeking behaviour [8]. Considering that tungiasis is a preventable and curable disease, is fundamental that the health surveillance system promotes mechanisms against those severe events.

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