Skin lesions simulating blue toe syndrome caused by prolonged contact with a millipede

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INTRODUCTION

Millipedes are elongated wormlike animals of the phylum Arthropoda and class Diplopoda, scientifically known as millipede or centipede and popularly known as gongolo. Most have at least 30 pairs of legs, and most of the body segments have 2 pairs of legs1. It has a marked seasonality, and its emergence occurs mainly during warm and rainy periods. It is found in damp places under leaves, stones, and wood and around moss or soil1,2.

Many species can emit a liquid with an unpleasant odor that is strong enough to kill some insects. They release quinones and other irritants and pigments for their defense, and, in some cases, the presence of hydrogen cyanide has been observed. Millipedes are not considered venomous animals; however, this defense mechanism can be harmful to humans and usually manifests as erythematous, purpuric, and cyanotic lesions; local pain; and paresthesia3,4.

The differential clinical diagnosis should be performed using acute arterial occlusion, of which the frequent causes are embolisms, thrombosis, and traumas. Atheroembolism, or peripheral microembolization, may occur in any arterial area, but, in the lower limbs, it is characterized by the classic presentation of blue toe syndrome. This acute manifestation of digital ischemia is evidenced by the sudden change in temperature and color of the toe, which initially becomes cold and pale and later acquires a cyanotic aspect5. A key symptom of acute arterial occlusion is pain, and the sudden onset of arterial occlusion and severity of the resulting ischemia dominate the clinical condition5-7.

Here, we describe a case from the western region of the City of Rio de Janeiro, which has the highest temperatures in the state. The patient accidentally stepped on a millipede in her shoe.

CASE REPORT

A 23-year-old female patient from Bangu, Rio de Janeiro, presented to the emergency room (ER) in Bangu with pain, paresthesia, and blackened erythematous lesions on the first 3 toes of her left foot. She denied intermittent claudication.

On physical examination, there was no difference in temperature at the sites of the lesions compared to the contralateral foot, and there were normal peripheral pulses, which were strong and symmetrical. The capillary refill time in the 3 injured toes was normal, and there was no pallor on elevation of the left foot. Dermatological examination revealed erythematous, cyanotic, and blackened lesions at the distal end of the left hallux in addition to the medial and distal phalanges of the second and third left toes; she had local hyperesthesia (Figures 2 and 3). The patient was told that it was a benign condition and was medicated with analgesics, an anti-inflammatory, and ice placed on the site.
Millipede populations can be very high, reaching 30-40 individuals/m² in some areas\(^1\)\(^2\). These animals assume a coiled position when threatened and may release a number of irritants, including quinones and cyanides, that cause conditions ranging from mild local irritation to skin necrosis; the clinical injury is limited to the contact site\(^3\)\(^9\). Skin lesions may occur in any individual in the absence of predisposition, simply through direct contact with the fluid released by the millipedes\(^7\). Usually a dark reddish or blackish staining of the skin that simulates inflammatory or even necrotic lesions is observed\(^10\).

In this case, the peculiarity of the lesions and identification of a millipede inside the shoe assisted with the correct diagnosis. The prolonged contact time with the animal was responsible for the more blackened tonality of the lesions. The cyanotic and blackened aspects looked like a standard ischemic tissue condition, and clinical peripheral vascular disease can often be a diagnostic challenge, especially if there is no awareness of contact with an animal.

The clinician and, especially, the dermatologist should be alerted to this diagnosis, be aware of whom to consult, and accompany the case until complete resolution.

**REFERENCES**