

Digital ulcers as a manifestation of a severe variant of carpal tunnel syndrome

Úlceras digitais como manifestação de uma variante grave da síndrome do túnel do carpo

Joana Xará^{*}, Ana L. Matos, and José C. Cardoso

Department of Dermatology, University Hospital, Coimbra Local Health Unit and Faculty of Medicine, Coimbra, Portugal

A 67-year-old woman presented to the dermatology department with a 6-month history of paresthesia and painless unilateral skin ulceration on the second fingertip of the right hand, with an adjacent distal violaceous macule. In the third fingertip a distal brownish macule

with small vesicles was observed (Fig. 1). Laboratory studies, including antinuclear antibody testing, showed no abnormalities. Hand radiograph revealed diffuse osteopenia, without osteolysis, and electromyography showed severe sensory-motor stage compression of

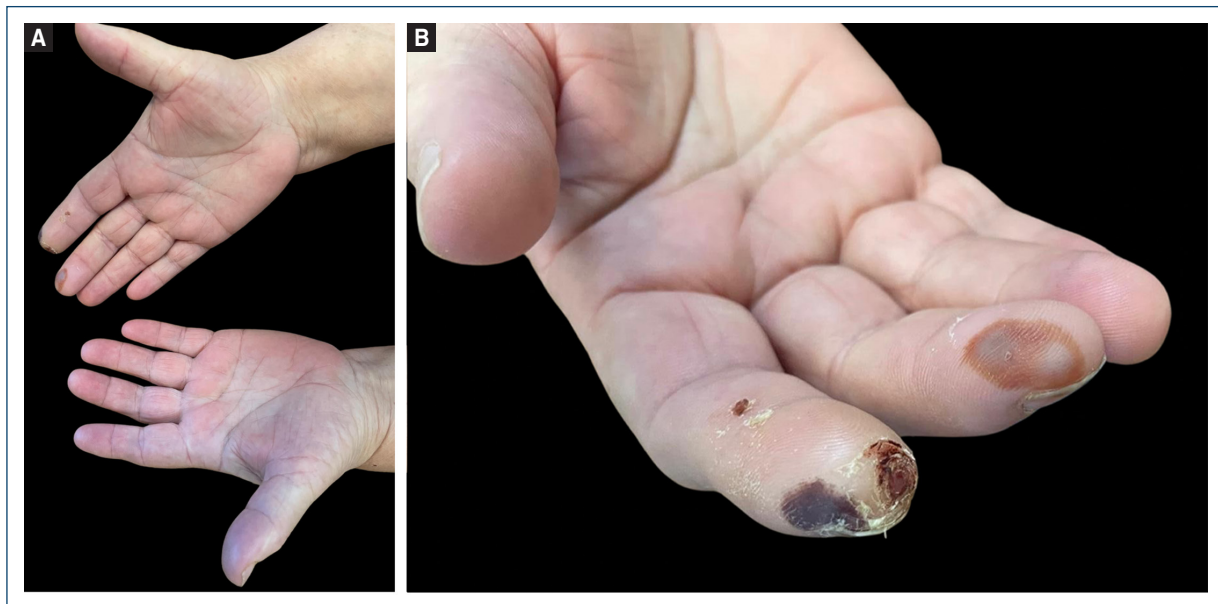


Figure 1. Skin ulceration on the second fingertip of the right hand, with an adjacent distal violaceous macule suggestive of subcorneal hemorrhage and a small erosion covered with crust in the second phalange. In the third fingertip, a distal brownish macule with small vesicles is shown (A and B).

***Correspondence:**

Joana Xará

E-mail: joanaresendexara@gmail.com

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the median nerve. The diagnosis of ulcerating carpal tunnel syndrome (CTS) was established and the patient was referred for orthopedic surgical treatment, showing significant improvement at 1-year follow-up.

This rare form of CTS arises from longstanding median nerve compression, leading to autonomic dysfunction, which is thought to contribute to the development of ischemic cutaneous changes in the digits¹. Such cutaneous findings are otherwise uncommon in classical CTS². Cutaneous lesions initially present with erythema, edema and bullae, eventually leading to unilateral painless ulcers on the palmar surface of the second and third fingertips³⁻⁵. Nail abnormalities like hyperkeratosis and onycholysis can also be present, although they were not observed in our patient². Diagnosis is based on clinical assessment, supported by hand radiographs and electrophysiological tests, which can demonstrate median nerve dysfunction. Patients are often misdiagnosed with systemic sclerosis or Raynaud disease and autoantibody tests should be conducted³. Carpal tunnel release surgery remains the most effective treatment, as it resolves nail and skin lesions and prevents irreversible changes like acro-osteolysis²⁻⁴.

This entity should be considered in the diagnosis of patients with unilateral ulcerations and nail changes limited to the second and third fingers, accompanied by sensory and motor changes along the median nerve pathway.

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Conflicts of interest

None.

Ethical considerations

Protection of humans and animals. The authors declare that the procedures followed complied with the ethical standards of the responsible human experimentation committee and adhered to the World Medical Association and the Declaration of Helsinki. The procedures were approved by the institutional Ethics Committee.

Confidentiality, informed consent, and ethical approval. The authors have followed their institution's confidentiality protocols, obtained informed consent from patients, and received approval from the Ethics Committee. The SAGER guidelines were followed according to the nature of the study.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing of this manuscript.

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