Importance early and differential diagnosis in patients with chronic ulcers of the lower limb

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This case study provides an overview of a female patient who presented with ulcers in both lower limbs. Initially, she was diagnosed with arterial disease secondary to occlusion bilateral tibial, due to their multiple infectious intercurrences. This was further compounded by poor evolution to medical vascular treatment without the possibility of surgical treatment, due to infected or endovascular lesions and treatment confined to the use of advanced wound healing. A histopathological diagnosis of vasculitis could only be achieved following biopsy of the lesions. When vasculitis, which relates to blood vessel inflammation, affects small- or medium-sized blood vessels in the skin, it is called cutaneous vasculitis (British Association of Dermatologists, 2017). The clinical presentation can lead to misdiagnosis or confusion with systemic diseases and infections, such as mycoplasma. It is, therefore, essential to take into account these diseases as a differential diagnosis, as well as the experience of the multidisciplinary team.

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A case report relating to a patient presenting with ulcers in the lower limbs and diagnosed with peripheral arteriopathy (pathologic arterial EcoDoppler) is presented here. Ulcerous lesions evolved, due to infections, as well as with poor responses to medical treatment or topical advanced wound healing products (advanced wound healing). For this reason, biopsy of the edges and base of the lesion was performed, with a diagnosis of vasculitis reached.

Methods

A 71-year-old female patient presented with a history of acute myocardial infarction, stenting in the anterior descending artery, type 2 diabetes mellitus, acute hypertensive and pulmonary oedema, and she was a smoker. The vascular examination showed an occlusion of bilateral tibial arteries in both lower limbs.

The patient presented with necrotic ulceration of the lower left limb with 100% fibrin in the base, abundant lymphatic exudate, with no signs of infection and regular borders, with irregular violet edges, and issues around pain management *[Figures 1–7]*.

Advanced wound management was performed with the application of a foam hydrofiber dressing to improve the poor exudate management. After 15 days, new lesions with the same characteristics in the contralateral lower limb appeared.

Infection can occur due to deep mycosis in the lower left limb. As Cordova (2012) states, vasculitis is more frequent in the lower limbs, making a biopsy necessary.

The histopathological study reported acute inflammatory infiltrate with abscess microfocus and necrosis areas at the edge of the ulcer, as well as fibrinoid degeneration of small calibre vessels with neutrophilic parietal infiltration and associated thrombosis. Granulomatous reaction and areas of fat necrosis were found to coexist. Using the Periodic acid–Schiff (PAS) technique, fine and thick septate hyphae with branches at 45 and 90 degrees (Fusarium solari) were seen, and they were treated with amphotericin B and posaconazole. Local recurrence surfaced again with the same characteristics but with sepsis present in the lower left limb. Supracondylar amputation of the limb was performed and treatment with antifungals was suspended.

Figure 1. Necrotic ulcer with irregular violet edges.
Figure 2. Multiple ulcers complete covered by fibrin and irregular violet edges.
Figure 3. Large cuff ulcer with irregular surface and edges.

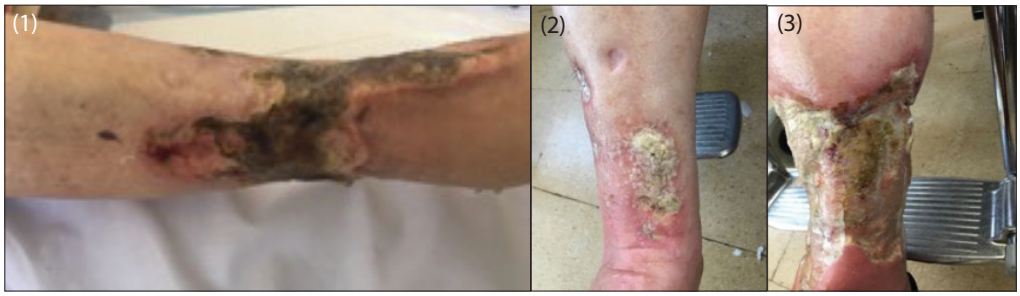
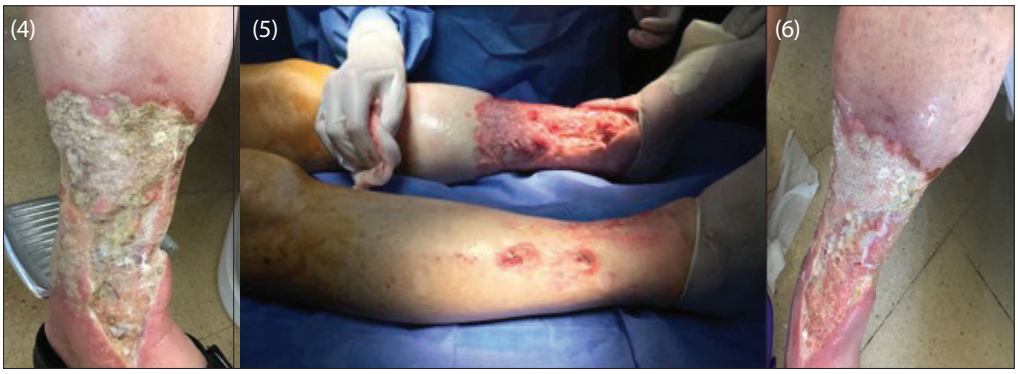


Figure 4. Giant ulcer cuff with slough.
Figure 5. Post toilette wound.
Figure 6. Giant ulcer in cuff with fibrin and slough.



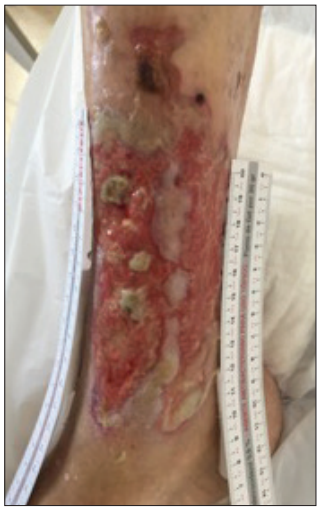


Figure 7. Good wound evolution with systemic treatment.

Biopsy results were obtained, with a diagnosis of leukocytoclastic vasculitis of both lower limbs confirmed. The biopsy also found inflammatory infiltrates of transmural location in the small vessels (postcapillary venules, capillaries and arterioles), fibrinoid necrosis, destruction of the vessel walls by the inflammatory infiltrate, extravasated erythrocytes, neutrophil fragmentation producing 'nuclear dust' (leukocytoclasia) and rich neutrophil infiltrates in the perivascular areas (*Figures 8–10* show the pathological anatomy at different magnifications). This supports the importance of undertaking a biopsy, supported in the literature by Gota and Calabrese (2013) and Moreno Martinez (2017).

Vasculitis is an inflammation or necrosis of blood vessels that can destroy the vessel wall and cause haemorrhage and/or ischaemia; this is also known as hypersensitivity vasculitis, affecting the small vessels.

When the histopathological diagnosis was made, treatment with corticosteroids was initiated, at which time the ulcer began to improve. In terms of what supported the diagnostic suspicion, it is understood that the mild forms tend to respond to a conservative treatment that includes rest, non-steroid anti-inflammatory drugs (NSAIDs), antihistamines and topical corticosteroids. Moderate forms require corticosteroid treatment at medium doses (prednisone 0.5 mg/kg/day). Colchicine (0.5 mg/12 hours) or hydroxychloroquine may also be added. Severe forms may require high doses of corticosteroids (prednisone 1 mg/kg/day), dapsone (100 mg/day), azathioprine, methotrexate, cyclosporin A and even cyclophosphamide. The use of these immunosuppressants is empirical, since there is an absence of properly designed clinical trials to support their efficacy. The authors stress the importance of considering differential diagnoses in the presence of atypical ulcers, to consider the clear indication of carrying out a biopsy. According to Mukhtyar et al (2009): "In theory, [multidisciplinary] MD working brings together groups of experts, however, referral can cause delay and lack of joined up working and at times misdiagnosis." Best practice would support exploring how to improve communication and ways of working between the MD team to ensure timely referral and improve outcomes by reducing morbidity and mortality.

Conclusion

The patient was diagnosed with vasculitis and also showed signs of arterial disease, by means of an echodoppler. The authors performed a differential diagnosis and followed up with a biopsy. The ulcers were caused by the leukocytoclastic vasculitis and fungal mycosis infection (fusarium).

In the presence of a cutaneous vasculitis, clinical decisions should not be delayed until the biopsy results are obtained, according to Meza Ayala (2015). After conducting the clinical history, anamnesis, physical examination and analytical study, possible aetiological factors,

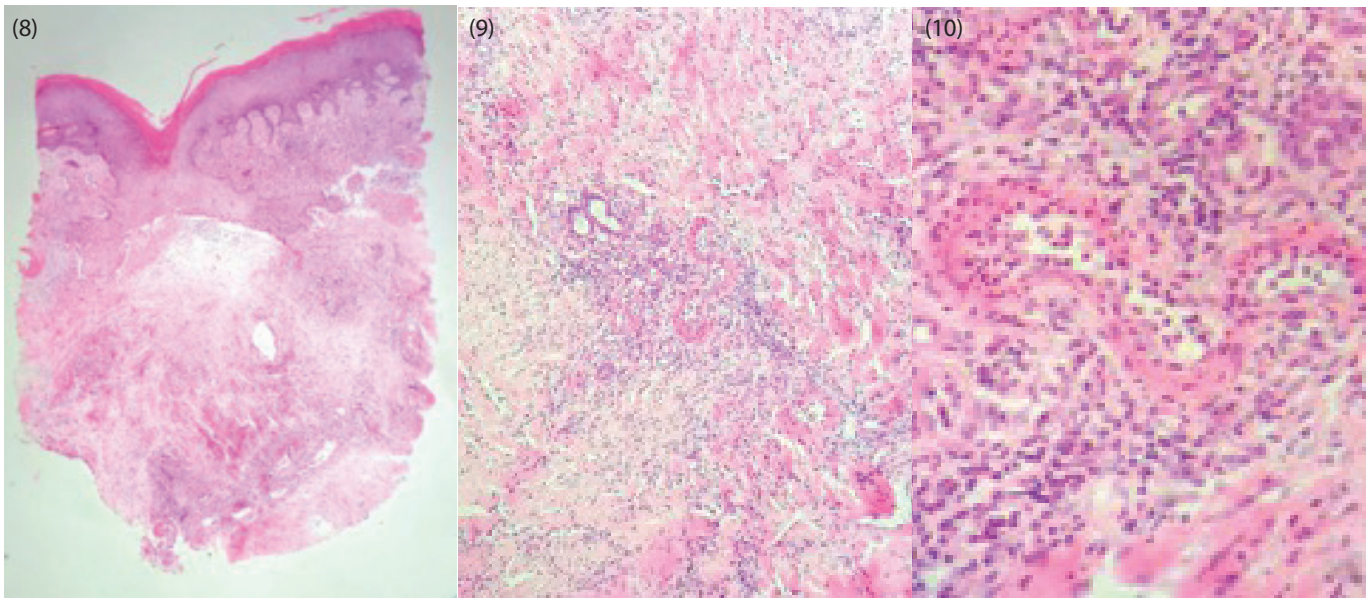


Figure 8. Leukocytoclastic vasculitis in Pathological anatomy image (4x).
Figure 9. Leukocytoclastic vasculitis in Pathological anatomy image (10x).
Figure 10. Leukocytoclastic vasculitis in Pathological anatomy image (40x).

such as drugs, infections, connective tissue diseases, systemic vasculitis or neoplasms can be identified. Therefore, a treatment adapted to the needs of the patient must be initiated.

In general, leukocytoclastic vasculitis is a benign and self-limited disease, but occasionally skin lesions may be recurrent or chronic, being resistant to corticosteroid treatment. In these cases, the most appropriate drug was chosen.

In exceptional circumstances, serious systemic manifestations may appear that require more aggressive treatment with corticosteroids and immunosuppressants. If hepatitis C is present, this will need genotyping and treating appropriately, as Mukhtyar et al (2009) have explained. Therefore, we must rethink the importance of transdisciplinary and multidisciplinary work. WINT

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