Dermatology Practical & Conceptual

Calcinosis Cutis in Association With Long-term Stasis After Electrical Burn Injury: a Case Report

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Introduction

Calcinosis cutis is an uncommon disorder caused by an abnormal deposit of calcium phosphate in the skin [1].

Case Presentation

A 55-year-old male patient with a long-lasting wound on the left ankle presented with complaints of swelling and itching on his left ankle. According to his medical history, he had an electric shock to the left leg 33 years before and the wound was closed with grafting. Ulceration developed at the same site 2 years before he presented at our clinic.

On physical examination, he had an erythematous, ulcerated, sclerotic, 20 cm x 15 cm in size wound over the left lateral malleolus. On this wound, there were three fluctuating masses with overlying intact skin which were 1 x 1.5, 1 x 2 and 3x3 cm in size, respectively (Figure 1A). Dermoscopic examination showed blue to gray structureless areas, numerous coiled vessels with patchy distribution and scales (Figure 2A). A thick, profuse, white, chalky material was discharged from the hole created via a punch biopsy (Figure 1B).

Histopathological examination revealed hyperkeratosis, acanthosis, superficial dermal vascular proliferation along with dermal and subcutaneous calcification foci. X-ray examination showed irregular-defined calcified foci over the posterior aspect of the distal end of the fibula extending in a linear fashion (Figure 2B). Arterial and venous Doppler ultrasound examinations revealed normal findings.

Biochemical parameters including liver and renal function tests, alkaline phosphatase, serum calcium, phosphorus, sodium, potassium, vitamin D levels, parathyroid hormone levels, CEA, AFP, CA-15-3, CA-19-9, total PSA were within normal limits.

The patient was diagnosed with a stasis ulcer with dystrophic calcification and was managed with extremity elevation, wound dressing and oral diltiazem. The patient, who has been under our control for 18 months, has not had a recurrence of the fluctuating mass (Figure 1C).

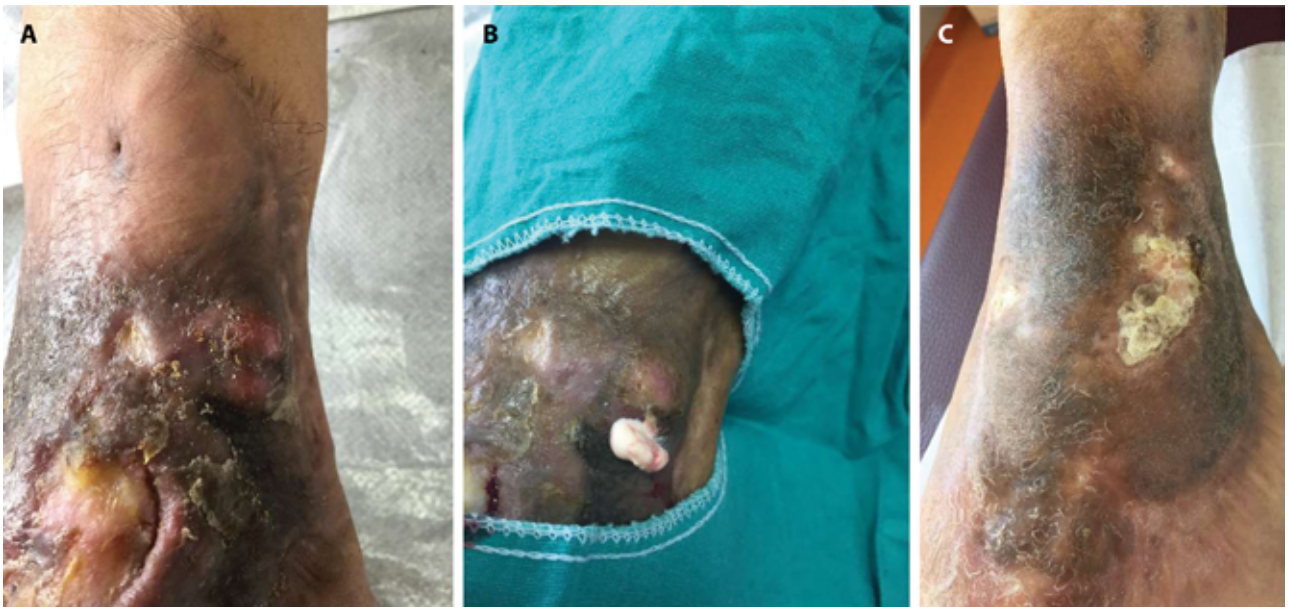

Figure 1. (A) An erythematous, ulcerated, sclerotic wound over the left lateral malleolus and three fluctuant masses. (B) A thick, profuse, white, chalky material discharged from the hole created via a punch biopsy. (C) 18 months after the treatment, it is seen that the fluctuant masses still do not recur.

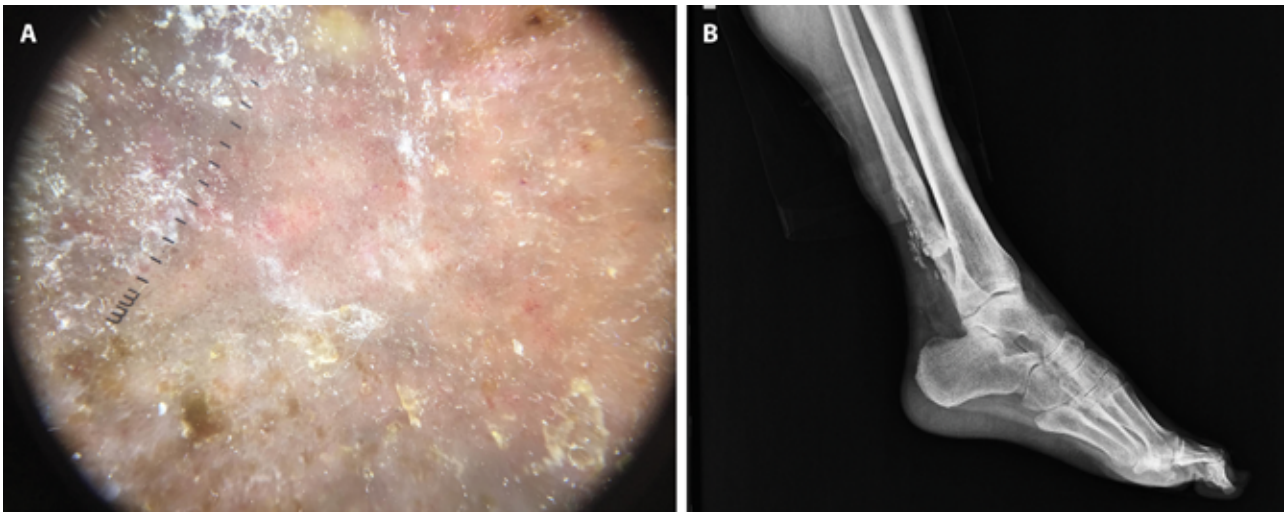

Figure 2. (A) Dermoscopic appearance: blue to gray structureless areas, numerous coiled vessels with patchy distribution and scale. (B) X-ray of the left lower leg showing irregular-defined calcified foci over the posterior aspect of the distal end of the fibula extending in a linear fashion.

Informed consent: Written informed consent for publication of clinical details and clinical images was obtained from the patient.

Conclusions

Cutaneous calcification has been divided into five major types according to etiology: dystrophic calcinosis is the most common type of calcinosis that is associated with infection, inflammatory processes, cutaneous neoplasm, or connective tissue diseases. Other types of calcinosis cutis are metastatic calcification, idiopathic calcinosis cutis, iatrogenic, and mixed calcinosis [1,2].

In the literature there a few studies on dystrophic calcification due to stasis developed as a result of chronic venous insufficiency [1]. Arterial and venous Doppler results of our patient were normal. However, the stasis might have been caused by worsened lymphatic drainage due to previous operations and tissue damage experienced by the patient.

Dystrophic calcification is reported to be a rare cause of non-healing leg ulceration [2]. It should be kept in mind that dystrophic calcification of the skin may also be associated with persistent ulceration in the setting of stasis.

The treatment of calcinosis cutis is not well-established. Apremilast, diltiazem, bisphosphonates, probenecid, aluminum hydroxide, aimed at altering the serum calcium-phosphorus

levels, have been tried. Long-term treatment with diltiazem was reported to decrease the size of calcium deposits. Surgical excision or curettage is appropriate in selected patients [2].

References

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