CASE REPORT

Cement burn: an occupational disease with favorable outcome. Case report

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Abstract
We present the case of a 54-year-old patient with a thermal cement burn. This rare case is a localised occupational chemical cement burn on the lower limbs, with no systemic involvement and favourable outcome. The lesion was induced by prolonged contact of the skin with cement and water during hot summer days.

Introduction
A 54-year-old construction worker, with extensive work experience, was seen in consultation on a hot summer Friday afternoon. He had been working for outdoors more than 10 hours a day for the last 5 days, at high temperatures (around 35°C), while wearing protection equipment and rubber boots. Approximately 1 week prior to the consultation, he noticed pruritus and erythematous lesions on the lower limbs.

Clinical examination revealed important oedema, ulcerations covered by necrotic and fibrinous crusts, swelling and intense pain affecting the lower limbs, circumferentially (Figure 1). The patient had no allergic diseases, medication or medical care in recent years. He worked with cement at very high temperatures for hours and wore the boots directly on the skin. He also used to splash water over his face, trunk and lower limbs while working because of high temperatures. The boots that the patient used displayed multiple holes that allowed direct contact of the skin with cement and water.

The patient was hospitalised and treated in the burn unit. Escharotomy of the lower limbs was performed, systemic antibiotics (third generation cephalosporin) were prescribed and the patient was closely monitored. Other comorbidities were excluded following laboratory tests.

The healing process was long, leaving residual scars and hyperpigmented areas.

Case discussion
Cement is a widely used powder that contains calcium oxide, silicon dioxide, aluminium oxide, ferric oxide and sulphate. The main component is calcium oxide, which when in contact with water, produces calcium hydroxide and induces a more alkalotic pH.

Since the first description, made by Ramazzini in 1700 in his book ‘De Morbis Artificia Diatriba’, there have been several reports of cement-induced skin damage. The first case report of cement-induced burns was published by Rowe and Williams in 1963 (1).

In 1995, a classification of cement burns was done by Xiao and Cai, taking into consideration the mechanism of cement injury on the skin (2). Three types of burns can be produced by cement: by abrasion, blast or heat (3). Abrasion burns are more...
The present case is not a contact dermatitis but a thermal cement burn. To the best of our knowledge, this is the second case of such an entity published in the literature. Compared to the previously published case, our case is localised, with no systemic involvement and favorable outcome (5). It is occupational skin damage (chemical cement burn) of the lower limbs, induced by prolonged contact of the skin with cement and water during hot summer days.

References