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Drug-induced lichenoid reaction after kyphoplasty

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We want to draw attention to a previously undescribed side-effect that occurred after kyphoplasty, which is a variant of vertebroplasty where cement is injected into a cavity created in the fractured bone by the insertion and inflation of a balloon. A 66-year-old man was treated for T9–T10 osteoporotic fractures by kyphoplasty in February 2009 and showed good tolerance. In April 2009, after a new fracture on T11, he was treated once again with kyphoplasty, complicated by a small leak between T10 and T11 that did not show any immediate clinical symptom, and detected by tomographic scan. The treatment's efficacy was good. However, 10 days later, an eruption appeared in the form of erythematous macules and papules, not very pruriginous. These lesions were symmetrical and mainly located at the injection site on the back. Some less severe lesions were also present on the torso and the members. The eruption then flowed into pigmented lesions. No mucosal or nail lesion was detected. Cutaneous histology of the lesions revealed a lichenoid lymphocytic

infiltrate in the dermoepidermal junction, slight pigmentary incontinence and a few necrotic keratinocytes. Serology for Hepatitis B and C was negative. A 3-month treatment with Acitretine (max. 45 mg/day) was prescribed and then stopped with skin improvement. There was no evidence of recurrence. A few months after the eruption, allergological tests were performed with an empty control patch, a patch containing KypX[®] HV-R (K) and patches containing its constituents: benzoyl peroxide, methylmethacrylate, N, N-dimethyl-p-toluidine and hydroquinone. Barium sulphate alone was not tested. The readings at 48 and 96 h were all negative. We then performed a prick test with K, which was negative at 20 min and 24 h. Nevertheless, a subtle macule could be observed 15 days later on the site of the K patch. We thus performed two biopsies. The first one, taken from the site of the K patch, revealed a mild inflammatory infiltrate of lymphocytes. The second biopsy, taken from the control patch site, was normal. The diagnosis of lichenoid drug reaction (LDR) induced by kyphoplasty was established based on historical, clinical, histological and immuno-allergological data.

The side-effects of kyphoplasty are usually caused by polymethylmethacrylate extravasation and are not immuno-allergological. A dermatological case of necrotic livedo of the foot because of intra-arterial embolism was described (1). Another case of immuno-allergological reaction was detected at a radiologist as a bronchospasm because of exposure to acrylates (2). Moreover, allergies because of equivalent bone cements have been described to provoke plaques, localized pruritus and even loosening of the implant, although no lichen eruption was reported. The tests performed in these studies demonstrated a sensitization to the agents responsible for acrylate polymerization. Indeed, seven patients presented reactions to benzoyl peroxide, eight patients to N, N-dimethyl-p-toluidine, two patients to hydroquinone and 16 patients to methyl methacrylate (3, 4).

Lichenoid drug reaction has been reported after treatment with several different drugs. Lichenoid lesions typically appear several weeks to several months after treatment onset, in concordance with what we observed in our patient (10 days). However, in this particular case, the relevance of the positive patch

Kyphoplasty can induce lichenoid drug reaction.



test at 15 days is difficult to assess, because the histological analysis was not completely characteristic of lichen, and patch tests are positive in only 28% to 38% of LDR cases (5). On the other side, the imputability of KyphX[®] is not doubtful since symptoms ceased, and even though the cement was still in place, it is known that acrylate polymerizes, which may explain the absence of recrudescence. In conclusion, we report here the first case of LDR as a side-effect of kyphoplasty.

Statement of contribution

All authors contributed equally.

Disclosure of potential conflict of interest

The authors have declared that they have no conflict of interests.

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