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Myositis in a Patient After Steroid Injection via Dermojet[®] Injector

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Dear Editor:

The Dermojet (AKRA Dermojet, Pau, France) has been widely used to treat various skin disorders in dermatological practice because of its convenience and safety¹. Reported Dermojet induced complications include mild pain, erythema, secondary infection, cutaneous atrophy

and traumatic tattoo¹⁻³. We report herein a case of myositis induced by a jet injector. We received the patient's consent form about publishing all photographic materials. The study was approved by the Institutional Review Board of Yeouido St. Mary's Hospital, The Catholic University of Korea (IRB no. SC16ZISE0006).

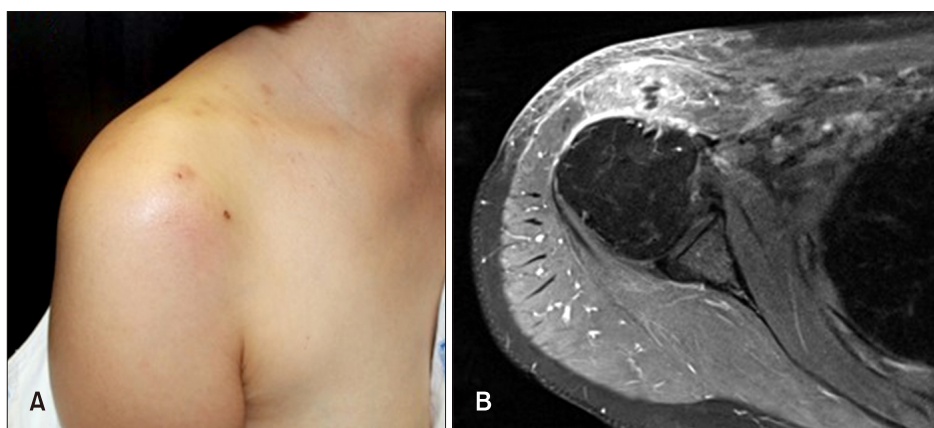


Fig. 1. (A) A 41-year-old woman with a localized, ill-defined, tender, erythematous, indurated plaque on her right shoulder. (B) Transverse T1-weighted magnetic resonance imaging demonstrated swelling and increased signal intensity with enhancement in the deltoid and coracobrachialis areas and diffuse subcutaneous edema in the anterior shoulder.

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A 41-year-old woman presented to our clinic with a pruritic eczematous lesion of the right shoulder and on both arms. Several months before the visit, the patient was diagnosed with lichen simplex chronicus by a local clinic and treated with oral steroids and antihistamine. The lesions were treated twice with an intralesional injection of 0.1 ml triamcinolone (40 mg/ml) using a jet injector at 4-week intervals. One day after the second injection, the patient complained of painful swelling on the right shoulder at the injection site. There was a localized, ill-defined, tender, erythematous, indurated plaque that limited shoulder movement (Fig. 1A). The patient denied any history of insect bite or trauma at that site. Laboratory data showed an increased creatine phosphokinase (894 U/L) and an elevated C-reactive protein (27.92 mg/L). Transverse T1-weighted magnetic resonance imaging demonstrated swelling and increased signal intensity with enhancement in the deltoid and coracobrachialis areas and diffuse subcutaneous edema in the anterior shoulder (Fig. 1B). Therefore, the patient was diagnosed with myositis of the deltoid. To test for bacterial infection and/or non-tuberculous mycobacteria infection, skin biopsy, cultures and tuberculosis polymerase chain reaction (TB-PCR) were performed. Skin biopsy revealed a moderate lymphohistiocytic infiltration involving the dermis. Gram, periodic acid-Schiff and acid-fast bacillus staining were all negative. Bacterial and fungal cultures of the tissue and TB-PCR results were negative and the infection source was not identified. The patient was treated with intravenous cefazolin 2 g three times a day for 5 days followed by oral levofloxacin 500 mg once a day for 12 days. Three weeks later, the lesion had completely resolved and laboratory data were within normal limits.

Several factors may contribute to the development of myositis. Skin thickness varies according to age, sex, and region of the body's surface⁴. The skin depth at bony prominences is much thinner than in other areas. When an injector is applied with the same pressure, injection at a bony prominence might cause deeper penetration of drug than in other areas. Therefore, applying an injector with relatively high pressure could cause drug to penetrate the skin, subcutaneous tissue and muscle. Moreover, repeated scratching or rubbing of the lesion due to dermati-

tis may damage the epidermal barrier. Under these conditions, resident bacteria are more likely to penetrate deeper into the tissue due to the injector.

Gu and Jeon⁵ reported a case of pyogenic flexor tenosynovitis after jet injector treatment of psoriatic lesions on the palm of the hand. Pyogenic infection of the flexor sheaths was observed. The patient was treated with antibiotics and surgery. We suggest that physicians treating patients with steroids using a jet injector near damaged skin or bony prominences should be aware of the risk of deep infection and should be cautious when using Dermojet. Moreover, radiologic evaluation may be necessary in cases of lesion-related pain after Dermojet injection.

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CONFLICTS OF INTEREST

The authors have nothing to disclose.

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