

LETTER TO THE EDITOR

Allergic reaction to red cosmetic lip tattoo with possible exacerbations after SARS-CoV-2 vaccination

Editor,

A 63-year-old otherwise healthy woman was referred for cheilitis after permanent make-up (PMU) of the lips. She had two micropigmentation sessions of the lips performed in January 2021 and in the end of March 2021. The ink used was red wine (BioTouch, USA). According to the datasheet provided by the manufacturer, the ink contained iron oxide, titanium dioxide, glycerine and ethanol. The patient received her first SARS-CoV-2 vaccination (Comirnaty, Pfizer-BioNTech) in the end of April 2021. One month later, she reported painful swelling of the lips with redness and tingling that affected her feeding. Anti-histamines were inefficient. Hydrocortisone-17-butyrate cream 0.1% for 2 weeks followed by tacrolimus 0.1% ointment once a day did not provide any relief. After the second vaccination in mid-July 2021, she reported a rapid flare-up of symptoms. At presentation in November 2021, the patient had an infiltration of both upper and lower vermillion borders with scales of the lips (Fig. 1). Physical examination was otherwise normal including oral mucosal, and she had no palpable cervical lymph nodes. She had a 1-year-old PMU of the eyebrows that was normal.



Figure 1 Chronic reaction on a cosmetic lip tattoo with an infiltration of the vermillion borders and scales on the lips.

Dermoscopy of the lips and vermillion failed to find any lichenoid network. A diagnosis of allergic tattoo reaction to the red ink was made. The patient refused a 3-mm punch biopsy. No patch testing was performed because no reliable patch tests for tattoo allergies are currently available. Superpotent corticosteroid ointment (clobetasol propionate 0.05%) was applied for 3 months. Upon a phone call follow-up, she reported slight improvement, but mentioned a flare 5 days after the third SARS-CoV-2 vaccination. Topical tacrolimus 0.1% ointment twice daily was prescribed again. One month later, she reported only mild improvement. She is still being treated with tacrolimus ointment twice a day. Hydroxychloroquine has been initiated at the dose of 300 mg/day for 3 months, but halted because of side-effects.

Allergic reactions after PMU are well-known and had been described previously.¹⁻³ In our case, we diagnosed the patient with an allergic reaction to red lip tattoo, based on the frequency of this side-effect on red tattoos. Without biopsy, it is challenging to distinguish a lichenoid reaction from a cutaneous pseudolymphoma. A foreign-body granulomatous reaction and a sarcoidosis cannot be fully excluded.⁴⁻⁶ The reaction started 2 months after micropigmentation and 1 month after the first vaccination. A fortuitous association cannot be ruled out, but the patient spontaneously had the feeling of worsening of the symptoms after each vaccination shots. To the best of our knowledge, there is no prior case of tattoo allergic reactions induced by SARS-CoV-2 vaccination. With the current unprecedented immunization campaign and 18.5% of adults with one tattoo or more worldwide,⁷ such adverse event would have not gone unnoticed. We rather hypothesize that vaccination may have exacerbated or revealed a pre-existing tattoo allergy, rather than being the cause of it. We feel that our case is noteworthy and worth reporting in case other colleagues have encountered similar situations.

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The patient in this manuscript have given informed consent to publication of the case detail.

Conflicts of interest


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Data availability statement

Data are available on request from the authors.

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