LETTER TO THE EDITOR

Generalized and persistent skin pigmentation after COVID-19 vaccination

Editor

With COVID-19 vaccines becoming widely available, numerous cutaneous adverse reaction patterns following vaccine injection have been increasingly reported. Most of those cutaneous reactions are self-limited with proper treatment.[1] Here, we report a case of generalized skin pigmentation following the first of COVID-19-inactivated vaccination and persistent for more than 1 year.

A 27-year-old woman, without any history of skin disease and significant past medication, presented to our clinic with a 5-week history of multiple brown patches on her body. The lesions appeared 1 week after the first dose of the CoronaVac-inactivated vaccine (Sinovac). The patient mentioned that dark brown patches initially appeared on the trunk, and the lesion gradually extended to the whole body after a few days. Clinical examination revealed that dense multiple dark brown macules and patches throughout her neck, trunk and proximal extremities with 70% of body surface area involved (Fig. 1). There was no oral or genital mucosal involvement. Laboratory tests showed no significant abnormalities. Histopathological examination showed epidermal hyperpigmentation lymphocytes and perivascular infiltrate of lymphocytes with melanophores in the dermis (Fig. 2). She was administrated oral methotrexate 12.5 mg per week for 3 months. No significant improvement was observed and she denied further treatment.

Generalized pigmentation with COVID-19 vaccination has not been reported yet. Only three cases associated with local postinflammatory pigmentation after specific primary lesions were reported with mRNA vaccination.[2–4] Drug-induced pigmentation accounts for up to 20% of all cases of acquired pigmentation,[5] which is commonly associated with Non-steroidal anti-inflammatory drugs, tetracyclines, amiodarone, cytotoxic drugs, heavy metals and psychotropic drugs.[6–8] The pathogenesis of drug-induced pigmentation is unclear.[9] Previous studies had raised several mechanistic investigations on the epidermal melanocytes overproducing melanin, synthesis of new pigment as well as deposits of iron following damage to the dermal vessel.[7,10]

To our knowledge this is the first report of presenting onset generalized and persistent skin pigmentation following COVID-19 vaccination, and clinicians need to be aware of this possible cutaneous adverse effects related to COVID-19 vaccination.

Figure 1 Dark brown patch on the proximal extremities.

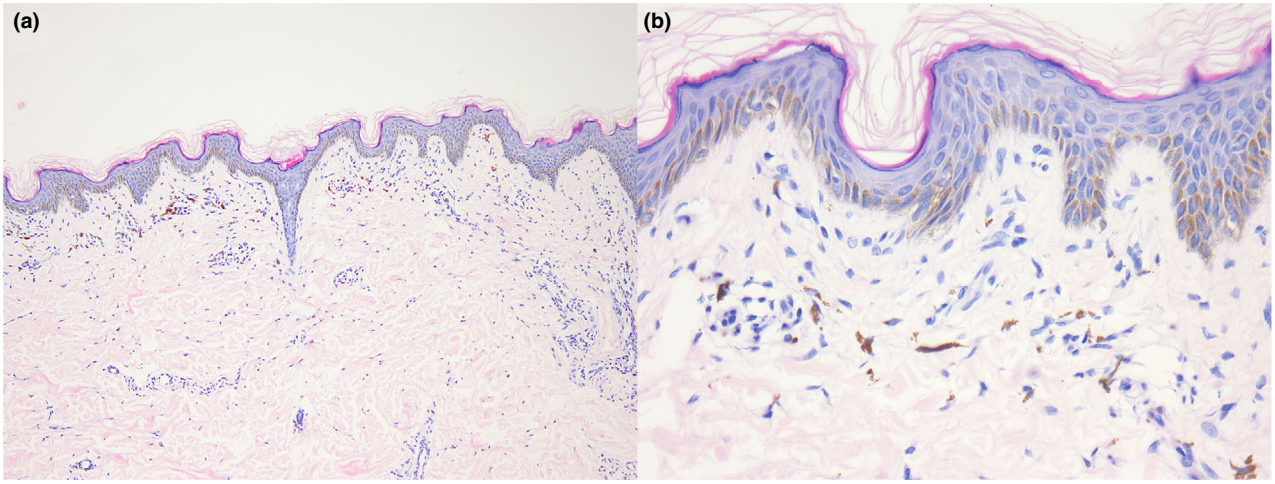

Figure 2 (a) Histopathological section of skin lesion demonstrating epidermal hyperpigmentation. (H&E, ×100); (b) Higher magnification demonstrates melanophores, lymphocytic perivascular infiltrate in the upper dermis. (H&E, ×400).

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The patients in this manuscript have given written informed consent to the publication of their case details.

Conflicts of interest

The authors have no conflict of interest.

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Data availability statement

The data presented in this manuscript are available from the corresponding author upon reasonable request.

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