

LETTER TO THE EDITOR

Subacute cutaneous lupus erythematosus following ChAdOx1 nCoV-19 vaccination

Dear Editor,

Various cutaneous side effects associated with COVID-19 vaccination have been reported. However, autoimmune skin reactions following

COVID-19 vaccination have rarely been documented. We here report an unusual case of subacute cutaneous lupus erythematosus (SCLE) following ChAdOx1 nCoV-19 vaccination in an Asian man.

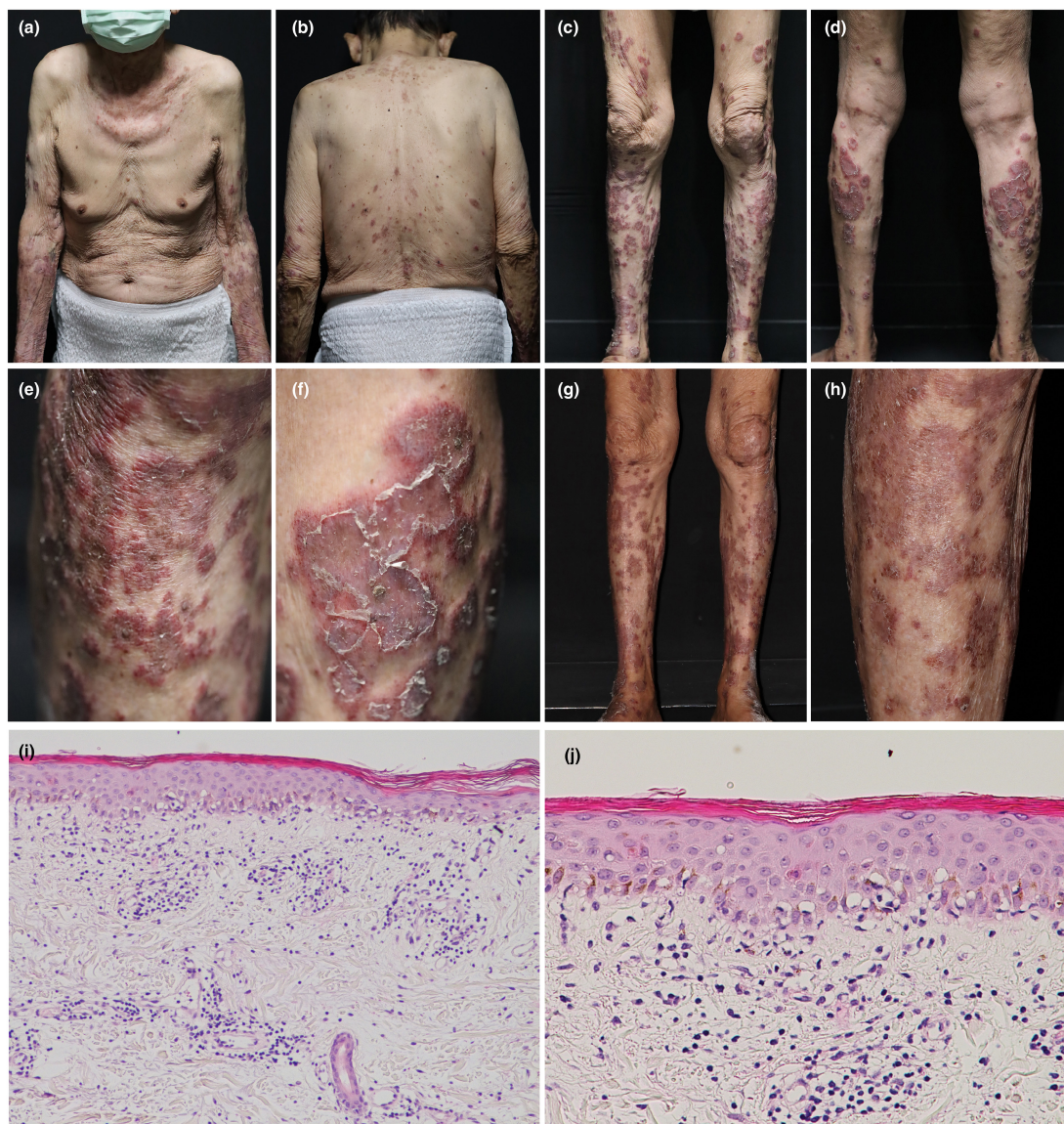


FIGURE 1 (a–d) The patient presented with erythematous scaly annular and polycyclic plaques on his trunk and four limbs. (e, f) Close-up view of the skin lesions on the legs. (g, h) Improvement of erythematous skin lesions following 2 weeks of oral prednisolone (10 mg/day) treatment. (i) Histopathology showed epidermal atrophy, interface dermatitis with basal cell vacuolization and apoptotic keratinocytes, and superficial perivascular lymphocyte infiltrate in the upper dermis (magnification 100 \times). (j) High-power view showing interface dermatitis with prominent basal cell vacuolization (magnification 200 \times).

An 81-year-old otherwise healthy Taiwanese man presented with erythematous scaly annular and polycyclic plaques on his trunk and four limbs (Figure 1a–f). There was no pruritus or pain, and the patient denied fever, dry eyes, dry mouth, or other discomfort. He had not taken any medications prior to the skin eruption. The skin lesions appeared 3 days after he received the first dose of ChAdOx1 nCoV-19 vaccine (AstraZeneca).

Laboratory tests showed normal complete blood count and biochemical profile. However, antinuclear antibody titer was borderline (1:40) with homogeneous pattern, and anti-SSA/Ro antibody was markedly elevated (>240), while anti-SSB/La and other autoantibodies were normal. Schirmer's test revealed normal tear secretion. A skin biopsy from the right thigh showed epidermal atrophy, interface dermatitis with prominent basal cell vacuolization, dermal mucin deposition, and superficial perivascular and perieccrine lymphocyte infiltrate (Figure 1i,j). Direct immunofluorescence showed scattered IgM-reactive cytooid bodies at the dermal–epidermal junction. Based on clinical, serological, and pathological features, the patient was diagnosed with SCLE. He was treated with oral prednisolone 10 mg/day for 2 weeks, followed by 5 mg/day for 3 weeks, after which the skin erythema resolved leaving post-inflammatory hyperpigmentation (Figure 1g,h).

Subacute cutaneous lupus erythematosus is an autoimmune disease characterized by papulosquamous psoriasiform or annular-polycyclic skin lesions, and the presence of anti-Ro autoantibodies. The lupus band is positive in only 60% of patients. This disease is more common in white middle-age females. Drug-induced SCLE may occur in some patients, and is characterized by older age of onset and frequent involvement of legs.¹ The induction or exacerbation of SCLE following COVID-19 vaccination have rarely been described, with only a few reported cases to date (mainly related to BNT162b2 and Moderna mRNA vaccines).^{2–4}

In our patient, SCLE is likely to be associated with the COVID-19 vaccine due to the absence of prior autoimmune diseases, close temporal relationship between vaccination and skin eruption, and absence of other trigger factors (such as drugs, infection, or sun exposure). To our knowledge, this is the first reported case of new-onset SCLE following ChAdOx1 nCoV-19 vaccination.

The type I interferon pathway is known to play an important role in the pathogenesis of cutaneous lupus erythematosus. The ChAdOx1 nCoV-19 adenovirus-vectored vaccine induces innate immune responses by intrinsic adjuvant activity, which in turn triggers the production of type I interferon (interferon- α).⁵ This may provide an explanation for the development of SCLE following vaccination in our patient.

We here describe an unusual case of SCLE following ChAdOx1 nCoV-19 vaccination in an Asian man without previous autoimmune

disease. Since the COVID-19 vaccine is currently administered to the worldwide population, clinicians should be aware of the possibility of SCLE following vaccination. In addition, in patients with new-onset vaccine-induced SCLE without prior lupus history, low-dose prednisolone may be sufficient to control this skin reaction.

FUNDING INFORMATION


This work was supported by a grant from Kaohsiung Medical University Hospital (KMUH110-OR60).

CONFLICT OF INTEREST

None declared.

Wei-Yao Wang^{1,2}

Sebastian Yu^{1,2}

Stephen Chu-Sung Hu^{1,2,3} 

¹Department of Dermatology, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

²Department of Dermatology, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

³Department of Dermatology, Kaohsiung Municipal Siaogang Hospital, Kaohsiung, Taiwan

Correspondence

Stephen Chu-Sung Hu, Department of Dermatology, Kaohsiung Medical University Hospital, No. 100, Tzyou 1st Road, Kaohsiung 807, Taiwan.
Email: stephen@kmu.edu.tw

ORCID

Stephen Chu-Sung Hu  <https://orcid.org/0000-0002-1832-4471>

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