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Erythema annulare centrifugum induced by COVID-19 vaccination

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Dear Editor,

COVID-19 (SARS-CoV-2) infection has become an international pandemic with significant social, health and economic consequences.[1] In South Korea, mRNA vaccines and the viral vector vaccines AZD1222 (Oxford-AstraZeneca) and Ad26.COV2.S (Janssen) have been approved for inoculations against SARS-CoV-2.[2] With the rapid rollout of vaccinations, unexpected reactions, including skin reactions, have been emerging. We report a case of erythema annulare centrifugum (EAC) developing after AZD1222 vaccine administration.

A 74-year-old woman presented with multiple erythematous and itchy patches at several body sites. She had received her first AZD1222 vaccination 1 month earlier, and 5 days after the vaccination, a number of erythematous patches had developed on her left arm. She had no other relevant medical history.

Physical examination revealed multiple annular scaly erythematous patches with a central pale zone on the arms and shoulders (Fig. 1a,b). There were no abnormal laboratory findings.

Histological examination revealed epidermal changes, including mild spongiosis and parakeratosis (Fig. 2a,b). Tight perivascular lymphocytic infiltration (coat-sleeve pattern) was also observed in the dermis. Periodic acid–Schiff did not detect any fungi.

The final diagnosis was EAC induced by SARS-CoV-2 vaccination.

She was treated with levocetirizine, rupatadine, methylprednisolone, roxithromycin and topical methylprednisolone aceponate 1 mg/g lotion. After 3 weeks of treatment, the skin lesions and pruritus were completely resolved without any complications. During the follow-up period, she did not develop any recurrence after her second AZD1222 vaccination.

With the expansion of the COVID-19 vaccination drive, an increasing number of adverse effects (AEs) are surfacing, including AEs that have not been commonly reported to date. A recent study reported AEs of the AZD1222 vaccine in healthcare workers in Korea, with the major cutaneous AEs being injection site reactions, such as pain (77.8%), swelling and redness (24.9%), while urticaria was reported in 2.9% of patients.[3]

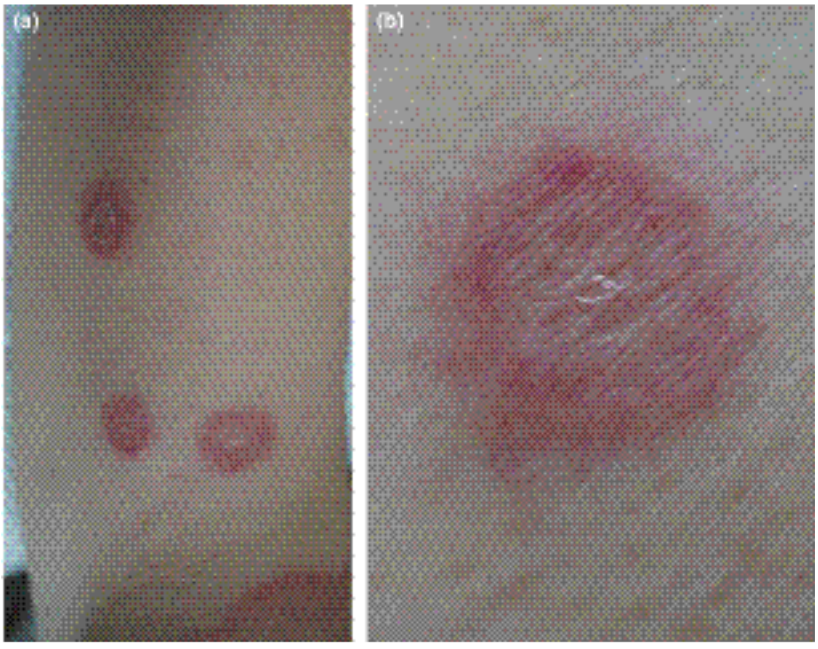

Figure 1 Multiple annular erythematous patches with a central pale zone are shown on the arms and shoulders.

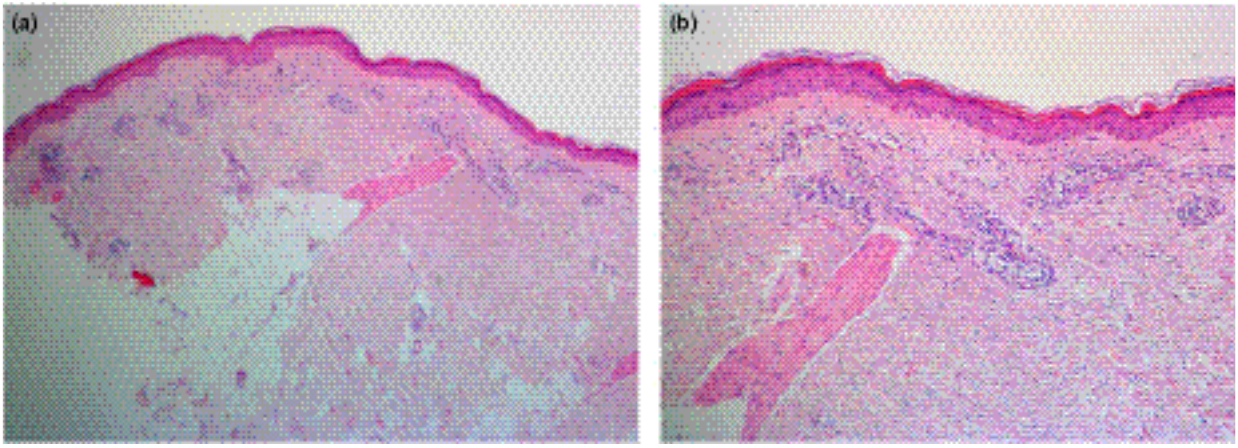

Figure 2 Mild spongiosis, parakeratosis and tight perivascular lymphocytic infiltration (coat-sleeve pattern) were observed in the histology.

EAC is a rare cutaneous disorder that presents as annular erythematous plaques with central clearing and peripheral scales. The most frequently accompanying symptom is pruritus, although it is often asymptomatic. The dense perivascular infiltration composed of lymphocytes and histiocytes is the most representative histological finding. Although most cases of EAC are idiopathic, it has been suggested that the condition is a hypersensitivity reaction to antigens, and it has been linked to cutaneous or systemic infections, malignancy, drugs and pregnancy. Recently, there was a case of EAC suspected to be triggered by SARS-CoV-2 infection, which suggests that proinflammatory cytokines released during SARS-CoV-2 infection could cause the EAC.[4] We believe this case to be the result of a delayed-type hypersensitivity or T-cell–mediated immune reaction to the vaccine. Similar to a previous study showing a high incidence of reactions to the first vaccine dose, but not to the same vaccine after the second dose,[5] our case showed occurrence of EAC only after the first injection of the AZD1222 vaccine.

Based on this report, dermatologists should be aware of the possibility of EAC developing after COVID-19 vaccination. We hope this report will add to the understanding of the cutaneous manifestations of COVID-19 vaccinations.

J. C. Kim, S. Y. Lee, S. Y. Kang, H. O. Kim, C. W. Park and B. Y. Chung
Department of Dermatology, Hallym University Kangnam Sacred Heart Hospital, Hallym University College of Medicine, Seoul, Korea
E-mail: victoryby@naver.com
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Acute spondyloarthritis developing during successful treatment with dupilumab for severe atopic dermatitis

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Dear Editor,
We report the case of a 44-year-old man with a lifelong, severe and recalcitrant form of atopic dermatitis (AD),

