



Induced flare of systemic lupus erythematosus due to Sars-Cov2 vaccine

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Background: Several factors such as emotional stress, drugs, infections, pregnancy and exposure to sunlight may trigger a lupus flare. The development of Covid-19 vaccines has been progressing. However, concerns of Covid-19 vaccine safety and the side effects remain unknown.

We report a case of systemic lupus erythematosus (SLE) induced with Astrazeneca Covid-19 vaccine.

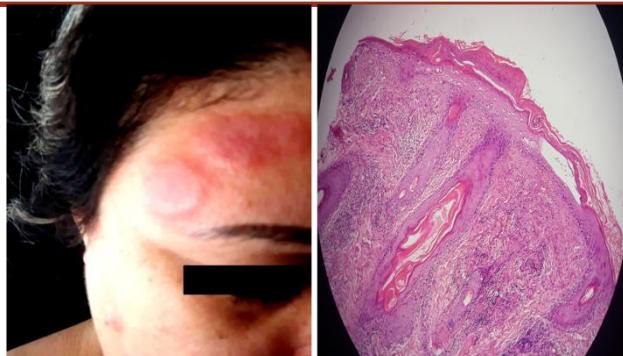
Case report:

A 39-year-old woman with a five-year history of Hashimoto thyroiditis with a good control with L-Thyroxin presented in the outpatient department with a complaint of **prominent nodular skin lesions over the face, the trunk, the back the arms and limbs** for the previous 5 days, associated with **symmetric arthralgias** of both wrists, hands and knees. She **did not suffered from Covid-19 infection**. The patient had **no history of allergies**.

Physical examination, revealed temperature 37°C, pulse 85/min, and blood pressure 115/80 mmHg. Examination of her face revealed reddish **papules with mild edema of the forehead and the anterior trunk, the sun-exposed areas of arms and limbs**. There were no other significant findings during the examination. Of note, the patient received **the first dose of Covid-19 vaccine (Astrazeneca) 5 days before the onset of cutaneous findings**.

Laboratory analysis showed Hb 12 g/dl, white blood cells (WBC) 4600 cells/UL (75% neutrophils, 20% lymphocytes), and erythrocyte sedimentation rate (ESR) was 10 mm/hour. C-reactive protein (CRP) was 12 mg/dl and serum creatinine was 74 µmol/l. No proteinuria or red blood cells were observed on the urine exam. The chest radiograph and electrocardiogram were normal. Antinuclear antibodies were positive (1:320).

Anti-DNA were negative and complement levels were within normal range. Moreover, Skin biopsy revealed **basal layer degeneration, interface dermatitis with a mononuclear cell infiltrate at the dermal-epidermal junction and perivascular lymphocytic infiltrate**. The diagnosis of SLE with cutaneous and articular flares was established according to the Systemic Lupus International Collaborating Clinics (SLICC) criteria. There was no evidence of lupus nephritis, pericarditis or neurological flare. We started treatment with **corticosteroids : 0.5 mg/kg/day, hydroxychloroquine**. Cutaneous lesions disappeared and arthralgias have improved within 1 month, and the patient continues follow-up in our outpatient department with no other flares.



Discussion

• All Covid-19 vaccines have well-documented adverse effects including immediately allergic reactions, gastrointestinal symptoms, tiredness, fever, injection site pain and swelling, myalgias, cough, dyspnae, arthritis, anxiety and depression.

• Adverse skin reactions such as dermatitis, lichen planus, urticaria, angioedema, toxic epidermal necrolysis can occur.

• Few cases of precipitated or induced lupus with Covid-19 vaccine has been reported.

In our patient, the differential diagnoses considered were vaccine Covid-19 reaction and lupus flare. In fact, she did not have any features of underlying SLE before the vaccination and she had a history of Hashimoto thyroiditis. Then, we resort to the immunological and histopathological investigations to confirm the diagnosis of SLE in our patient with non-specific symptoms.

• A recent study in patients with SLE has assessed a mild to moderate disease flare in 11.4% of patients and severe flare in 1.3% of patients post-Covid-19 vaccination.

Conclusion: Despite the Covid-19 vaccine is highly recommended in patients with autoimmune diseases, further studies are mendantory to prove its long-term safety.