

Induced systemic lupus erythematosus due to Sars-Cov2 vaccine

Cherif Yosra^{1*}, Derbal Samar¹, Ben Dahmen Fatma¹, Abdallah Meya¹

Department of Internal Medicine, regional hospital of Ben Arous University of Tunis El Manar¹

Corresponding Author: 1*



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ABSTRACT

The concerns of Covid-19 vaccine safety and the side effects are till now unknown. We report a case of systemic lupus erythematosus (SLE) induced with Astrazeneca Covid-19 vaccine. In fact, the patient with no history of medical allergies presented with prominent nodular skin lesions over the face, the trunk, the arms and limbs, associated with symmetric arthritis of both wrists, hands and knees. Antinuclear antibodies were positive (1:320) and skin biopsy revealed basal layer degeneration, interface dermatitis with a mononuclear cell infiltrate at the dermal-epidermal junction and perivascular lymphocytic infiltrate. Of note, the patient received the first dose of Covid-19 vaccine (Astrazeneca) 5 days before the onset of cutaneous findings. She was then, diagnosed with systemic lupus erythematosus and treated with corticosteroids and Hydroxychloroquine and cutaneous lesions and arthralgias disappeared.



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1. INTRODUCTION

Several factors such as emotional stress, drugs, infections, pregnancy and exposure to sunlight may trigger systemic lupus erythematosus (SLE) flare. The development of Covid-19 vaccines has been advancing. However, safety of Covid-19 vaccine and the side effects are till now unknown.

2. Case presentation

A 39-year-old woman with a five-year history of Hashimoto thyroiditis treated with L-Thyroxin presented in the outpatient department with prominent nodular skin lesions on the face, the trunk, the back, the arms and limbs for the previous 5 days, associated with symmetrical 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, heartbeat 85/min, and blood pressure 115/80 mmHg. Examination revealed reddish papules with mild edema of the forehead (figure 1a) and the anterior trunk, the sun-exposed areas of arms and limbs. There were no other significant findings Indeed, the patient received the first dose of Covid-19 vaccine (Astrazeneca) 5 days before the onset of cutaneous lesions.

Laboratory analysis showed hemoglobin level at 12 g/dl, white blood cells (WBC) 4600 cells/UL (75% neutrophils, 20% lymphocytes), and erythrocyte sedimentation rate (ESR) at 10 mm/hour. C-reactive protein

(CRP) was 12 mg/dl and serum creatinine was 74 μ mol/l. No proteinuria or red blood cells were noticed on the urine exam. The chest radiograph and electrocardiogram were normal. Antinuclear antibodies were positive (1:320). Anti-DNA antibody was 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 (figure 1b). 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. Topical steroids did not reduce inflammation. Then, we started oral corticosteroids : 0.5 mg/kg/day and 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.

3. Discussion

We report a new case of induced SLE due to Sars-Cov 2 vaccine. All Covid-19 vaccines have well-documented adverse effects including allergic reactions, gastro-intestinal signs, tiredness, fever, injection site pain and swelling, myalgias, cough, dyspnae, arthritis, anxiety and depression (1). Adverse skin reactions such as dermatitis, lichen planus, urticaria, angioedema and toxic epidermal necrolysis can occur (1). Few cases of onset or induced lupus with Covid-19 vaccine has been reported (2, 3, 4).

In our patient, the differential diagnoses considered were vaccine Covid-19 reaction and lupus flare. In fact, she did not have any features of SLE before the vaccination and she was followed for Hashimoto thyroiditis. Then, immunological and histopathological results contributed to the diagnosis of SLE in our patient. 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 (5).

Thus, despite the Covid-19 vaccine is highly recommended in patients with autoimmune diseases, further studies are essential to ensure its long-term safety.

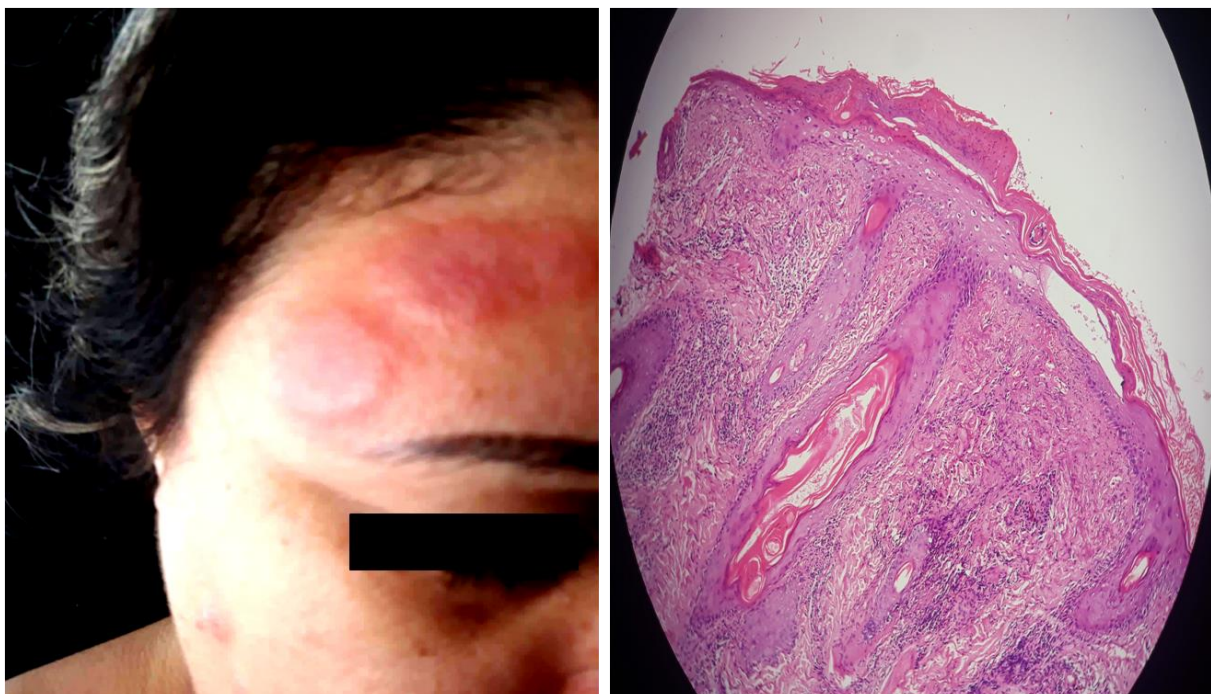


Figure 1 (a and b):

a: Reddish papules with mild edema of the forehead

b: Interface dermatitis with a mononuclear cell infiltrate at the dermal-epidermal junction and perivascular lymphocytic infiltrate

4. References

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No conflicts of interest

Ethics approval

The authors obtained the approval of research ethics committee of the regional hospital of Ben Arous to carry out this study.

Consent for publication

A written consent was obtained from the described subject to publish his data.

No identifying information of the patient appears in writing or within image.