CASE REPORT

AN UNUSUAL PRESENTATION OF STEVEN-JOHNSON SYNDROME AFTER BNT162B2 COVID-19 VACCINATION

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We present a 23-year-old white British male that presented to the Accident and Emergency Department, two weeks after the second dose of the BNT162b2 (BioNTech/Pfizer) vaccine. No similar use has been documented previously in literature. We report one potential complication of the Pfizer COVID-19 vaccine: A known case of Stevens-Johnson syndrome (SJS) that occurred after the second dose of the Pfizer COVID-19 vaccine alone without exposure to any other drug. Despite a significantly severe adverse drug reaction, the patient demonstrated completed recovery. The risk of developing severe cutaneous drug reaction from subsequent COVID-19 vaccinations in these patients is still unclear and remains a dilemma to date.

Keywords: COVID-19; Vaccination; Steven Johnson Syndrome; Adverse drug reaction; Pharmacology

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INTRODUCTION

Administration of BNT162b2 mRNA COVID-19 vaccine on a large scale was performed to combat the COVID-19 pandemic. We report one potential complication of the Pfizer COVID-19 vaccine: a known case of Stevens-Johnson syndrome (SJS) that occurred after the second dose of the Pfizer COVID-19 vaccine alone without exposure to any other drug. Despite a significantly severe adverse drug reaction, the patient demonstrated complete recovery. The risk of developing severe cutaneous drug reaction from subsequent COVID-19 vaccinations in these patients is still unclear and remains a dilemma to date.

CASE REPORT

We present a 23-year-old white British male that presented to the Accident and Emergency Department, two weeks after the second dose of the BNT162b2 (BioNTech/Pfizer) vaccine. The patient was complaining of odynophagia and dysphagia, which was predominantly due to diffuse ulceration, with some haemorrhagic areas in the upper lips, tongue and posterior pharynx (Fig.1A). He was predominately on a liquid diet and unable to tolerate solids prior to admission. A detailed medical history was taken from the patient. The patient was medically free of disease with no history of previous allergies. A family history for autoimmune and allergic diseases was negative. The patient reported that he had a mild pyrexia and general myalgia.

On examination, the patient had whitish patches all over the tongue dorsal surface and upper and lower lips (Figure-1B), genital erosions associated with ulceration of the penile shaft and white exudate of glans penis (Figure-1C) and multiple 2x2 cm erythematous macules, with rounded, circinate erythema on his upper and lower limbs (Figure-1D). There were no respiratory or neurological symptoms, conjunctival involvement nor palpable cervical lymph nodes. No adverse reactions were noted after the first dose of vaccine exposure.

A series of investigations were performed. Biochemically, full blood count (FBC) was normal, C-reactive protein was raised at 15 mg/L, GFR 59 m/l and Creatine was 144 µmol/L. The vasculitis panel, treponemal and HIV screening test were all negative. He had negative cultures and serology for all other infections screened. Parasitic infestations (ectoparasites and helminths), lymphoma, vasculitides (polyarteritis nodosa and Churg-Strauss vasculitis), dermatitis herpetiformis and hepatic cirrhosis were excluded by laboratory and histological findings. Direct immunofluorescent stain was negative. A routine Covid-19 PCR test preformed was negative. A clinical diagnosis of Stevens–Johnson syndrome (SJS) secondary to the second dose of the BNT162b2 (BioNTech/Pfizer) vaccine was made.

The patient was started on analgesia and IV fluids and made good recovery. He was followed up with a telephone consultation, in which he confirmed complete symptom resolution of skin and buccal lesions. No angioedema, no wheeze or dyspnoea was noted.

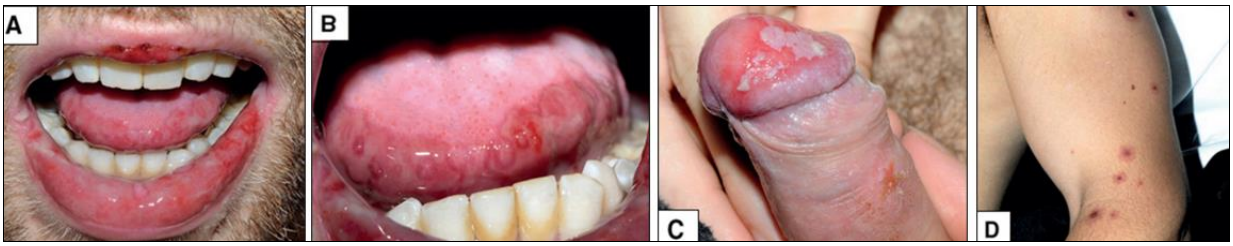

Figure-1: Patient with Stevens-Johnson syndrome:
(A) Mucous membrane involvement with haemorrhagic crusting of the lips. (B) Multiple erosions on the lower lip mucosa and over the lateral surface of the tongue. (C) Ulceration of the penile shaft and white exudate of glans penis. (D) Left arm; Erythematous macules, with rounded, circinate erythema

DISCUSSION

Skin reactions due to COVID-19 vaccinations are uncommon, but reported reactions have included local injection site reactions, morbilliform eruptions, and urticarial reactions.[1] Vaccinations as a cause of SJS is rare, with only a few case reports or small case series existing in the literature. In the past SJS has occurred following the influenza vaccine, and was caused by the vaccine itself, rather than any additives such as thiomersal and formalin.[2] Vaccine adjuvants can cause hypersensitivity reactions; however, none have led to SJS. Cases of SJS have been reported following the Moderna and Sinopharm COVID-19 vaccination, yet this case is the first that reports SJS after the second dose of the BNT162b2 (BioNTech/Pfizer) vaccine.[3,4]

Drug-induced SJS is a more common finding, with a similar presentation to vaccine-induced SJS, namely mucocutaneous ulcers and haemorrhagic erosions. Symptoms of vaccine-induced SJS are typically shorter (3–5 days post-vaccine), whilst drug-induced SJS presents 1–4 weeks after drug administration.[5] However, our patient presented with symptoms two weeks following the Pfizer vaccine. This could not be explained by confounding medications as he was fit and well prior to his presentation.

CONCLUSION

Stevens–Johnson syndrome is an exceedingly rare sequela of vaccinations. The link between severe cutaneous reactions from COVID vaccinations is still unclear. Given the 95% protection against COVID-19 that two doses of BNT162b2 could confer, this exceedingly rare complication should not generate hesitancy to receive vaccinations.

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