

# Acneiform Reaction of Covid-19 Vaccine. A Case Report

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## ABSTRACT

**Keywords:** Acneiform; Covid-19; Vaccine

## Introduction

Acne is a widely dermatologic disease with various treatment modalities according to its classification. This is the report of a patient not into the most common age group, nor medication associated to the outbreak; but only the recent second dose Covid-19 vaccine. Dermatologic reactions are being recently documented and there are no reports of acne reactions to date in various search gates. Even though it is not a life-threatening reaction, it can help associate this skin-related disease to be expected of Covid-19 vaccination. Although this is an acneiform reaction documented, it is expected that other cases may emerge, and further study be made.

## Case Report

A 47-year-old man with no prior history of medical disease, presented to our dermatology clinic with a history of 15 days of a cutaneous exanthem that is progressing. He stated that he noticed initiation of the cutaneous lesions 10 days after the second dose of Covid-19 vaccination was applied. His first vaccine was 3 months ago, and his second dose had been a month prior the onset; and

the exanthem 10 days after. He consulted a general clinic where he was given a betamethasone cream which he applied for four days with no improvement, reason why he discontinued the treatment and decided to consult again. The patient also stated no ingestion of multivitamins, b- complex formulations, no previous skin, or comorbid health conditions, nor any other oral medication or presentation of covid disease prior to the vaccine. During physical examination, red papules, some slight brown pinpoint macules, and pustules are seen on anterior neck, thorax, and abdomen suggestive of acneiform eruption. No other topography or skin alteration was found. Treatment for the acneiform reaction was indicated with sulfur base soap, clindamycin gel, topical retinoid, and a twenty-day oral minocycline scheme.

## Discussion

A variety of Covid-19 vaccine possible reactions have been reported. Many of these side effects that have been reported [1] state to be rare; and include anaphylaxis, thrombosis with thrombocytopenia syndrome (TTS), Guillain-Barre Syndrome, myocarditis, and pericarditis. Other recently reported cases in

Scotland prevalence of thrombocytopenia [2], thromboembolic, hemorrhagic events up to 27 days after vaccination [3], as well as herpes zoster [4,5], peripheral facial paralysis (Bell's Palsy), facial, lip and tongue swelling [6] associated to anaphylaxis. Most frequently reported are headache, fever, fatigue, joint pain, and injection-site pain. According to the data analyzed from the most used Pfizer-BioNTech mRNA vaccines, adverse effects are increased after the second dose immune "booster". Similar results have been reported from the Oxford-Astra Zeneca vaccine with similar effects to other vaccinations that result in unspecific reactions such as malaise, with milder symptoms. Suspected 2-polyethylene glycol (PEG) linked to lipid nanoparticles has been attributed as a possible cause of the anaphylactic reactions found, yet still to be studied the specific mechanisms by which these anti-PEG antibodies remain in blood circulation [7]. As it is well known, many of these effects are yet to be discovered. Very few cutaneous reactions have been cited after COVID-19 vaccinations. One recent report states vitiligo onset after mRNA Moderna COVID-19 vaccine [8]. Other reports

state herpes zoster reactivations [9], pernio-like acral lesions, increase of atopic dermatitis; and no psoriatic flares after Pfizer or Oxford-Astra Zeneca vaccination even with the concomitant use of immunosuppressant drugs with further study to be completed [10]. Review performed on PubMed, Nature, Cockcroft and Springer up to October 25, 2021, for the COVID-19 vaccine and dermatologic adverse effects manuscripts was done. The patient of the clinical case received first and second Oxford-Astra Zeneca doses. Dermatitis was developed after the second dose with increased rate. Considered, this acneiform reaction as another manifestation that dermatologists around the world should be aware of as a possible cutaneous vaccine reaction with its mechanism yet to be elucidated. As skin reactions are uncommon, and some have been reported [10], this is a case of acneiform reaction to COVID-19 associated to Astra Zeneca vaccine found with no other previous skin disorder or treatment. The patient improved with the administered medication and is still on continuous controls for the fulfillment of treatment.



**Figure 1:** Acneiform-like reaction anterior neck.



**Figure 2:** Papules and pustules on anterior thorax and abdomen.

## Conclusion

As Covid-19 emerged, so did the various attempts to understand this new and mortal disease. Vaccination is a disease controlling hope; but like any other medical strategy, it can have adverse reactions that need to be reported and fully analyzed. This case of extensive dermatologic acneiform reaction is highly probable secondary reaction to the Covid-19 vaccine and a dermatologic one to be reported.

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## Conflict of Interest

None.

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