

# Pityriasis rubra pilaris like eruption following Sinopharm - SARS COVID-19 vaccine

K H Samarasinghe<sup>1</sup>, T Janani<sup>2</sup>, C N Gunasekera<sup>3</sup>

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## Introduction

Pityriasis rubra pilaris (PRP) is an uncommon papulosquamous disorder, first described in 1835 by Claudia's Tarral<sup>1</sup> which is characterized by the presence of follicular papules on an erythematous base and orange-red plaques with islands of sparing. Six main types of PRP are described with classic adult being the most commonly seen variant. PRP can be associated with infections, autoimmunity, malignancies, drugs, etc. However, most cases are idiopathic.

Up to now, very few vaccines induced PRP are reported in the literature. (For MMR, DPT and Influenza vaccines<sup>4</sup>).

Recently a few case reports have been reported following COVID-19 vaccination involving Covi-shield and Pfizer vaccines, but non following Sinopharm vaccine to the best of our knowledge.

Herein we report the first case of PRP-like eruption following Sinopharm COVID-19 vaccination.

## Case report

A 46-year-old previously healthy Sri Lankan male presented with rapidly developing erythematous skin lesions over the body which first appeared 2 weeks after the first dose of Sinopharm COVID-19 vaccine and had worsening of the rash following the second dose taken 4 weeks after the first dose. There was no history suggesting any infection, significant ultraviolet exposure, drugs, or family history of similar skin rashes.

On examination, there were multiple orange-red, scaly papules and plaques coalescing to form large plaques with characteristic islands of sparing over the trunk (Figure 1), upper and lower limbs. Bilateral palmer and planter diffuse keratoderma (Figure 2) with onycholysis was also noted. Mucosal involvement was seen. General and systemic examinations were unremarkable.



Figure 1.



Figure 2.

<sup>1</sup>Senior Registrar in Dermatology, <sup>2</sup>Registrar in Dermatology, <sup>3</sup>Consultant Dermatologist, National Hospital of Sri Lanka, Colombo.

Two biopsies that were taken from the trunk and limb revealed psoriasiform hyperplasia of the epidermis with alternative ortho and parakeratosis in a “checkerboard pattern” as well as sparse lymphocytic perivascular infiltrate in papillary dermis favoring the diagnosis of PRP.

His basic hematological investigations and serological investigations for blood-borne viruses were normal. Age-appropriate malignancy screening was unremarkable.

A diagnosis of PRP triggered following Sinopharm COVID-19 vaccine was made.

He was started on oral acitretin with significant improvement of the skin rash.

### Discussion

PRP is a papulosquamous disorder with most cases are acquired, however, familial forms associated with CARD 14 mutation also reported<sup>1</sup>. Both men and women are affected equally. There are six main types identified and out of all, classic adult variant is the commonest type. Even though most cases are idiopathic, infections, UV exposure, various minor trauma to the skin, have been reported to precede the onset of PRP implicating physical trigger or super antigenic effect as possible etiological factors in some cases.

During this COVID-19, pandemic vaccination against SARS COVID-19 is being carried out worldwide with many of us encountering a wide variety of cutaneous adverse effects. The majority of them are minor cutaneous adverse effects like injection site reactions, urticaria, urticarial vasculitis, pain, pruritus, morbilliform eruptions, pityriasis rosea like reactions, etc.

Post vaccine-induced PRP, following MMR, DPT and Influenza vaccines are very rarely reported entity in the literature.

Up to now, a few COVID-19 vaccine-induced PRP cases have been reported in the literature towards Covishield vaccine<sup>2</sup> and Pfizer vaccine<sup>3</sup>. To the best of our knowledge, no Sinopharm COVID-19 vaccine-induced PRP like eruptions have been reported in the literature. Accordingly, this could be the first reported case of PRP-like eruption induced by the Sinopharm COVID-19 vaccine.

This case adds an important potential adverse effect of the COVID-19 vaccine, especially considering the significant morbidity and protracted nature of this skin disease.

Hence, awareness of such adverse effects among dermatologists will help with early recognition and prompt management.

### References

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