



## Pityriasis Rosea After Pfizer-Biontech COVID-19 Vaccine: A Case Report

Seyma Handan AKYON<sup>1</sup>, Yeser GENÇ<sup>2</sup>

<sup>1</sup>Health Sciences University, Ankara City Hospital, Family Medicine Clinic, Ankara, Turkey

<sup>2</sup>Ankara City Hospital, Department of Dermatology, Ankara, Turkey

### ABSTRACT

After the pandemic started, vaccines against SARS-CoV-2 were developed and applied in a short time. Later, various side effects were reported during the use of these vaccines. Among the skin side effects, besides local skin reactions at the injection site, urticaria, maculopapular rash and pityriasis rosea-like reactions were observed. We presented a female case who developed pityriasis rosea after administering the 3rd dose of the Pfizer-BioNTech COVID-19 vaccine.

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**Keywords:** COVID-19 vaccines, pityriasis rosea, Pfizer COVID-19 vaccine, drug-related side effects, adverse reactions.

### Introduction

SARS COV-2 is a virus that started in Wuhan, China in 2019 and caused the COVID-19 pandemic by affecting the whole world in a short time.<sup>1,2</sup> Although it can cause diseases in many systems, skin side effects are also observed (0.2%).<sup>3</sup> The most common skin lesions seen after COVID-19 infection are maculopapular, erythematous and urticarial lesions.<sup>4,5</sup> In the literature, there are a few cases developing pityriasis rosea after COVID-19 infection.<sup>5-7</sup> Herein, we presented a case of pityriasis rosea developing after Pfizer-BioNTech COVID-19 vaccine.

### Case Report

The case is a 31-year-old woman with no known comorbidity and regular medications. The patient, five days after the administration of the 3rd dose of Pfizer-BioNTech mRNA COVID-19 vaccine, describes the lesions on her back as 2x3 cm in diameter, oval, sharply limited, pale erythematous, in the form of a herald patch with pitriatic scales observed in the periphery (*Picture 1*) and began to spread rapidly within two days from smaller sizes to the entire body (*Picture 2*). The patient stated that the rash was mildly itchy and there were no other symptoms accompanying itching. In the skin examination, it was observed that the rash was



widespread throughout the body, including the face and the lesions were observed parallel to the skin lines. The patient was evaluated to have pityriasis rosea due to the medallion plaque presence, rash and the distribution character of the rash, and the absence of symptoms other than itching, therefore the patient was given topical steroid therapy. The topical steroids did not do any good for the patient, and systemic steroid treatment was started and it was seen that all lesions regressed in two weeks.

## Discussion

Vaccines against SARS-CoV-2 are being developed and implemented at a rapid pace. With COVID-19 vaccine applications; in addition to common side effects such as pain at the injection site, weakness, headache, myalgia, and fever, skin side effects can also be seen. Examples of these are local skin reactions at the injection site, urticaria, maculopapular rash, and pityriasis rosea-like reactions.<sup>8,9</sup> Pityriasis rosea is a self-limiting acute rash disease in which viruses such as HHV-6 or HHV-7 play a role in the etiology.<sup>10</sup> Pityriasis rosea-like eruptions (PR-LE) may be seen after vaccination or as a drug reaction. Pityriasis rosea

can be distinguished from pityriasis rosea-like rashes by the presence of prodromal signs and a herald patch.<sup>11</sup> Although pityriasis rosea can rarely be seen due to chickenpox, tuberculosis, influenza, HPV, poliomyelitis, diphtheria, pneumococcus, tetanus, hepatitis B vaccines, there are also cases of pityriasis rosea after COVID-19 vaccine.<sup>12-16</sup> It is believed that the cases developing pityriasis rosea associated with COVID-19 vaccine (mRNA) is similar to the herpes zoster virus reactivation mechanism after inactivated COVID-19 vaccine, since the effects of vaccine-specific particles on immunity may cause the development of pityriasis rosea.<sup>16,17</sup> In addition, it is argued that vaccines may cause delayed-type hypersensitivity with a drug-induced PR-LE-like mechanism.<sup>15</sup>

As a result, we presented a case with pityriasis rosea development after the third dose of Pfizer-BioNTech mRNA COVID-19 vaccine. Today, like with many vaccines, there are also cases of pityriasis rosea developing after COVID-19 vaccines. Further studies on tissue and serological examination are needed to establish a causal link between pityriasis rosea or PR-LE and COVID-19 vaccines.



**Picture 1.** Medallion plaque that first appears on the back and erythematous plaques that spread to smaller sizes over time.



**Picture 2.** Erythematous plaques located parallel to the skin lines in and around the abdomen.

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### Conflict of interest

The authors declared that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Authors' Contribution

Study Conception: SHA, YG; Study Design: SHA, YG; Supervision: SHA, YG; Materials: SHA, YG; Data Collection and/or Processing: SHA; Statistical Analysis and/or Data Interpretation: YG; Literature Review: SHA; Manuscript Preparation: SHA, YG; Critical Review: SHA, YG.

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