

## LETTERS TO THE EDITOR

# COVID-19 vaccination and inflammatory skin diseases

To the Editor,

The introduction of vaccination campaign is the most important strategy to fight against COVID-19 pandemic.<sup>1</sup> In particular, 2 viral vector-based vaccines [Vaxzevria® (AstraZeneca; AZD1222) and COVID-19 vaccine Janssen® (Johnson & Johnson; Ad26.COVS. S)] and 2 mRNA vaccines [Comirnaty® (Pfizer/BioNTech; BNT162b2) and Spikevax® (Moderna; mRNA-1273)] have been authorized in Italy.<sup>2</sup> However, different cutaneous adverse reactions have been reported following vaccination.<sup>3</sup>

Recently Alelq et al.<sup>1</sup> reported the effect of COVID-19 vaccination on immune-mediated skin diseases (IMSD) based on 10 patients seen in their outpatient clinics.<sup>1</sup> Specifically, among these 10 patients, they found a worsening of guttate psoriasis in 3 patients, 2 cases of bullous pemphigoid (1 case of de novo bullous pemphigoid and 1 flare of bullous pemphigoid), 2 cases of dyshidrotic hand eczema worsening, 1 case of pustular psoriasis, 1 case of de novo psoriasis, and finally, 1 case of de novo chilblain-like/gloves and socks-like skin lesion.<sup>1</sup> Herein, we also want to report the experience of a Southern-Italy Dermatology Centre in order to highlight the relationship between COVID-19 vaccination and inflammatory skin diseases.

To date, several skin reactions following COVID-19 vaccines have been recorded in the literature.<sup>2</sup> The most frequent ones are local or delayed reactions at the injection site, urticarial, maculopapular, morbilliform or papulovesicular eruptions and chilblains, livedo and vasculitis, swelling at the cosmetic filling site, varicella-zoster or herpes simplex eruptions, and pityriasis rosea-like reactions.<sup>3,4</sup> In line with the authors, we collected our cases' history in order to evaluate how COVID-19 vaccination could affect the course of some chronic inflammatory skin diseases, focusing the attention on psoriasis, hidradenitis suppurativa, pemphigus vulgaris, and atopic dermatitis.<sup>5,6,8</sup>

Our cohort study included 14 patients reporting psoriasis following vaccination, new onset of lichen planus, 11 atopic dermatitis, worsening of 5 patients with hidradenitis suppurativa,<sup>4</sup> finally 7 patients reporting the worsening of pemphigus vulgaris.<sup>5</sup>

Even if de novo diseases were reported, most of the observed cases regard the worsening of patient's dermatologic conditions.

Our experience suggests that most of these episodes were limited or self-resolving, non-requiring treatment discontinuation, or changing. Moreover, the vaccine cycle was completed in all of the patients.<sup>6</sup>

Interestingly, these worsening occurred within 14 days after vaccination, especially after the second dose.<sup>7</sup> No relevant data were associated with the type of vaccine, sex, or age of the patients.

In conclusion we agree with the authors on how vaccination with COVID-19 may exacerbate or newly induce inflammatory skin manifestations; this could be explained by the activation of vaccination-induced innate immunity in susceptible individuals. The direct relationship of these two events is still under investigation, but several factors such as temporal association and the number of reports reported in literature may explain the causal link. We believe that it is critical, as also suggested by the authors, to avoid treatments that may interfere with the efficacy of the vaccine, so it is better not to carry out therapies such as methotrexate or systemic corticosteroids unless necessary. Moreover, the prevalence of IMSD following vaccination may be underestimated since patients who experienced a less severe IMSD tend to self-medicate and do not seek medical attention.

Although physicians and patients should be aware of these possible exacerbations, they should not be discouraged from undergoing vaccination, which always remains safe and effective.

## AUTHOR CONTRIBUTIONS

Martora Fabrizio involved in data curation, formal analysis, investigation, visualization, writing-original draft preparation, review, and editing. Villani Alessia involved in conceptualization, validation, visualization, original draft preparation, review, and editing. Battista Teresa involved in conceptualization, validation, visualization, original draft preparation, review, and editing. Fabbrocini Gabriella involved in conceptualization, validation, visualization, review and editing, and supervision. Potestio Luca involved in data curation, formal analysis, investigation, visualization, original draft preparation, review, and editing. All authors read and approved the final version of the manuscript.

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## CONFLICT OF INTEREST

Authors reported no conflict of interest.

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## DATA AVAILABILITY STATEMENT

Data are reported in the current study that are on request by corresponding author.

## ETHICS STATEMENT

The authors confirm that the ethical policies of the journal, as noted on the journal's author guidelines page, have been adhered to. No ethical approval was required as this is a review article with no original research data.

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## REFERENCES

1. Alelq NA, Kubieniec ME, French LE, Prinz JC. Influence of COVID-19 vaccination on immune-mediated skin diseases. *J Eur Acad Dermatol Venereol*. 2022. doi:10.1111/jdv.18388. Epub ahead of print.
2. McMahon DE, Kovarik CL, Damsky W, et al. Clinical and pathologic correlation of cutaneous COVID-19 vaccine reactions including V-REPP: a registry-based study. *J Am Acad Dermatol*. 2022;86(1):113-121.
3. Potestio L, Genco L, Villani A, et al. Reply to 'Cutaneous adverse effects of the available COVID-19 vaccines in India: a questionnaire-based study'. By Bawane J et al. *J Eur Acad Dermatol Venereol*. 2022. doi:10.1111/jdv.18341. Epub ahead of print.
4. Martora F, Picone V, Fabbrocini G, Marasca C. Hidradenitis suppurativa flares following COVID-19 vaccination: a case series. *JAAD Case Rep*. 2022;23:42-45.
5. Martora F, Fabbrocini G, Nappa P, Megna M. Reply to 'Development of severe pemphigus vulgaris following SARS-CoV-2 vaccination with BNT162b2' by Solimani et al. *J Eur Acad Dermatol Venereol*. 2022;36:e750-e751. doi:10.1111/jdv.18302
6. Potestio L, Villani A, Fabbrocini G, Martora F. Cutaneous reactions following booster dose of COVID-19 mRNA vaccination: what we should know. *J Cosmet Dermatol*. 2022. doi:10.1111/jocd.15331. Epub ahead of print.
7. Zagaria O, Villani A, Ruggiero A, Potestio L, Fabbrocini G, Gallo L. New-onset lichen planus arising after COVID-19 vaccination. *Dermatol Ther*. 2022;35(5):e15374.