

**LETTER TO THE EDITOR**

## Skin reaction after SARS-CoV-2 vaccines Reply to ‘cutaneous adverse reactions following SARS-CoV-2 vaccine booster dose: A real-life multicentre experience’

Dear Editor,

We read with great interest the article recently published by Avallone et al.<sup>1</sup> entitled ‘Cutaneous adverse reactions following SARS-CoV-2 vaccine booster dose: a real-life multicentre experience’. The authors collected the adverse reactions developed the SARS-CoV-2 vaccine booster dose occurring within 30 days from the SARS-CoV-2 vaccine booster dose.

A total of 13 patients reporting cutaneous manifestations were described (two urticaria, two chilblain-like, two pityriasis rosea-like eruptions, one bullous pemphigoid, one herpes zoster, one maculo-papular rash, one eczematous drug eruption, one lichenoid drug eruption, one erythema multiforme-like, one cutaneous vasculitis). All patients denied any adverse reaction after the first two doses of vaccination.<sup>1</sup>

In line with the authors' statement, we conducted a retrospective study including all data collected from patients who attended our Dermatology Department for the onset of skin manifestations related to Covid-19 vaccination.<sup>2</sup>

In our experience, we mainly found the same reactions reported by the authors, such as urticaria, pityriasis rosea-like eruptions, pernio-like reactions of the acral sites, vasculitic eruptions, morbilliform rashes, herpes zoster, diffuse pruritus and diffuse hair loss.<sup>2</sup> Therefore, all these reactions were recorded either after the first or after the second dose.<sup>2</sup>

Unlike that described by the authors, patients reporting skin reactions after the first and second dose, were also evaluated after the third dose and none of them presented skin reactions after the vaccine. Only in a few cases urticaria and PR like eruption were recorded even though the timing of the manifestations exceeded of 15 days.

Moreover, we recorded flare-ups of chronic inflammatory skin diseases, particularly were described after the second and third doses in patients who reported no reaction after the first dose. Our data included 14 psoriasis,<sup>3</sup> five hidradenitis suppurativa<sup>4</sup> and seven pemphigus vulgaris.<sup>5</sup> No relevant data were associated with the type of vaccine, sex or age of the patients.

Our experience mainly pointed out two suggestions: the first one regarding the number of reactions observed from the first two doses compared to the third dose. Probably, the timing between the two vaccinations played a key role.

The second one concerned the fact that the same patients who had developed adverse events with the first and second

dose did not develop any reaction after the third dose, pointing out the importance of vaccination, its safety and efficacy.

Finally, to date, there are several preliminary studies comparing the heterologous BNT/1273 prime-boost regimen with the homologous BNT/BNT regimen,<sup>6,7</sup> suggesting that the heterologous one is more reactogenic given the higher dosage of mRNA present in the mRNA1273 vaccination; however, these are only preliminary data.

Therefore, we believe an explanation could be the activation of vaccination-induced innate immunity in susceptible individuals.<sup>8,9</sup>

Certainly, further studies are needed to understand how to relate the events associated with the various doses of COVID-19 vaccination.

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### CONFLICT OF INTEREST

The authors reported no conflict of interest.

### DATA AVAILABILITY STATEMENT

Data are reported in the current study.

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