

Letter to Editor

Association of COVID-19 vaccination and Urticarial vasculitis

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Dear Editor,

The occurrence of urticarial vasculitis (UV) in the current pandemic scenario has been relatively uncommon; however there is literature data on the association between COVID-19 vaccination and UV [Table 1].^[1-10] Baraldi *et al.* described a 78-year-old woman with mild urticaria after the first dose of the Oxford-AstraZeneca vaccine, which rapidly regressed. One week later, more accentuated urticarial lesions appeared over the extremities and the biopsy and blood tests confirmed the diagnosis of UV that improved with corticosteroids.^[1] Chang *et al.* reported recurrent urticaria in a 29-year-old male, which reappeared 5 days after the first dose of vaccine. The biopsy study confirmed the diagnosis of UV, which improved with antihistamines but rapidly recurred after the second vaccination.^[2] This recurrent urticaria was refractory to antihistamines but responsive to omalizumab. Daldoul *et al.* described a 73-year-old male with past history of chronic spontaneous urticaria, who presented with urticarial lesions on the thighs and trunk 2 days after the second dose of Pfizer-BioNTech mRNA vaccine; UV was confirmed on histopathology and there was a spontaneous improvement in 1 week.^[3] Dash *et al.* described a 27-year-old man with UV on the next day after the second dose of inactivated coronavirus vaccine, which was controlled by indomethacin and levocetirizine; and the authors highlighted that this was a unique example of UV caused by COVID-19 vaccination.^[4] Lapin described a 66-year-old female with UV affecting the hands after the first dose of AstraZeneca, with spontaneous clearance. The same patient presented with an intense rash, angioedema, and urticaria, 4 days after the second dose.^[5] She received treatment with fexofenadine for 6 weeks without any improvement, the biopsy study of skin lesions established the diagnosis of UV. The authors cited that this was the first occurrence of UV due to AstraZeneca vaccination and the third report in English literature of UV after

vaccines against COVID-19.^[5] Larson *et al.* reviewed the manifestations and biopsy findings of 23 cases of dermatological disorders after the COVID-19 vaccination from January 1 to May 31, 2021, and reported a 35-year-old female presenting with UV after the first dose of the Moderna vaccination, that was treated by antihistamines plus methylprednisolone and dapsone.^[6] Magro *et al.* reviewed clinical and complementary data, including biopsies, of 22 cases of dermatological disorders after the Moderna or Pfizer vaccines, and urticarial lesions appeared within 4 weeks after both doses of the vaccinations.^[7] There were ten women and 12 men with a median age of 53 (range 23-96 years) and two of them had characteristic pattern of UV on histopathological analysis.^[7] McMahon *et al.* reviewed the reported data from December 24, 2020, to February 14, 2021 of dermatological disorders after the Moderna (83%) or Pfizer (17%) vaccines in 414 patients with 44 (36-59) years of age, and 90% women.^[8] The cutaneous vasculitis was diagnosed in two cases after the first dose of the Moderna and in 1 case after the first dose of the Pfizer vaccination.^[8] Nazzaro and Maronese reported a 27-year-old female with a dermatological reaction due to UV 10 days after receiving the first dose of the Moderna vaccine, which was successfully managed by the use of prednisolone for 2 months.^[9] Ono *et al.* described a 68-year-old male presenting with urticarial lesions 4 days after the third dose of the Pfizer vaccine with no adverse effects to the subsequent vaccination.^[10] The diagnosis of UV was confirmed by skin biopsy, and the initial treatment by prednisolone resulted in no improvement.^[10] In conclusion, considered as a rare association with COVID-19 vaccination, UV may be underreported, or underdiagnosed and misdiagnosed due to a low degree of suspicion. Case reports on UV following covid vaccination contribute to enhancing the awareness of healthcare workers.

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Received: 28 March 2023 Accepted: 23 June 2023 Epub Ahead of Print: 10 August 2023 Published: 27 October 2023 DOI: 10.25259/IJSA_13_2023

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Table 1: Urticarial vasculitis associations with COVID-19 vaccines.

Reference	Vaccine	Case/s	Age	Dose
Baraldi <i>et al.</i> ^[1]	AstraZeneca	1 woman	78 years	First
Chang <i>et al.</i> ^[2]	Ns	1 man	29 years	First
Daldoul <i>et al.</i> ^[3]	Pfizer	1 woman	73 years	Second
Dash <i>et al.</i> ^[4]	Ns	1 man	27 years	Second
Lapin ^[5]	AstraZeneca	1 woman	66 years	First
Larson <i>et al.</i> ^[6]	Moderna	1 woman	35 years	First
Magro <i>et al.</i> ^[7]	Pfizer	1 woman	38 years	First
Magro <i>et al.</i> ^[7]	Moderna	1 man	90 years	First
McMahon <i>et al.</i> ^[8]	Moderna	2 (Ns)	Ns	First
McMahon <i>et al.</i> ^[8]	Pfizer	1 (Ns)	Ns	First
Nazzaro and Maronese ^[9]	Moderna	1 woman	27 years	First
Ono <i>et al.</i> ^[10]	Pfizer	1 woman	68 years	Third

Ns: Non-specified

Authors' contributions

Both authors contributed to the conception and design of the study, acquisition of data, analysis, and interpretation of data, drafting the article and revising it critically for important intellectual content, and final approval of the submitted version.

Ethical statement

In writing the manuscript, the authors followed the policy of the committee on publication ethics.

Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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How to cite this article: Santos VM, Sugai TAM. Association of COVID-19 vaccination and urticarial vasculitis. *Indian J Skin Allergy* 2023;2:105-6.