

**Response to Martora et al's  
"Hidradenitis suppurativa flares  
following COVID-19 vaccination: a  
case series"**



*To the Editor:* We read with interest Martora et al<sup>1</sup> case series of 5 patients with hidradenitis suppurativa (HS) who experienced a flare in their condition following COVID-19 vaccination. We would like to report our own case of a patient who presented with HS after COVID-19 vaccination, although, in contrast, our patient had no previous history of the disease.

The patient was a 63-year-old South Asian man who was overweight (body mass index, 29.5), a nonsmoker, and who had a background of hypertension, hyperlipidemia, ischemic heart disease, and impaired glucose control. He had suffered a SARS-CoV-2 infection in September 2020, and 6 months later, he received the first dose of the AstraZeneca COVID-19 vaccine in the left upper arm. Three weeks after vaccination, he presented with a firm, painful, inflamed swelling affecting the proximal right index finger, requiring a 2-week course of oral co-amoxiclav.



**Fig 1.** Hidradenitis suppurativa: erythematous, round-topped, nodular abscesses in the axillae (A and B), abdomen (C), and groin (D).

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He proceeded to receive the second dose of the AstraZeneca COVID-19 vaccine 2 months after the first dose, again in the left upper arm. On this occasion, he developed abscesses in the left axilla, left side of the abdomen, and left groin, 3 weeks after the vaccine dose (Fig 1). These required hospitalization for incision and drainage.

He continued to develop new lesions, and when he presented to us 6 months after the second vaccine dose, he was experiencing inflamed nodules in the right axilla and abdomen. A new diagnosis of HS was made, and treatment was commenced with oral doxycycline 100 mg once daily. He discontinued treatment after 10 days due to a rapid improvement in his condition. He successfully self-treated a further abdominal lesion with another 10 days of doxycycline and since then has remained in clinical remission for over 2 months. He has avoided receiving a third COVID-19 vaccination dose due to concerns over a potential further flare.

The timing of the skin lesions 3 weeks after both doses of the vaccine and the lack of previous HS lesions indicate that COVID-19 vaccination was likely the trigger for *de novo* HS disease. Interestingly, the manifestation of HS was incrementally more severe after the second vaccine dose than after the first dose, implicating immunologic memory in the pathogenesis of this presentation. It is also of note that after the second vaccine dose in the left arm, the multiple skin lesions were initially on the left side of his body, before extending to the right.

In this case, the key patient risk factor typically associated with spontaneous HS was the metabolic syndrome, whereas the other classic associations of spontaneous HS, including pubertal onset, smoking history, and positive family history of HS were absent.

The immunopathogenesis underlying HS associated with COVID-19 vaccination is unclear. The AstraZeneca COVID-19 vaccine stimulates innate immune responses by engaging multiple pattern-recognition receptors, in particular Toll-like receptor 9, to induce type I interferon secretion.<sup>2</sup> Multiple studies have demonstrated innate immune system dysfunction in HS.<sup>3-5</sup> It is therefore possible that

overstimulation of the innate immune system by the COVID-19 vaccination in a metabolically-primed individual was responsible for this clinical presentation.

*Helen Alexander, MBBS, BSc, and Neil P. Patel, MD, PhD*

*From the Department of Dermatology, Charing Cross Hospital, Imperial College Healthcare NHS Trust, London, United Kingdom.*

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*Correspondence to: Helen Alexander, MBBS, BSc, Charing Cross Hospital, Imperial College Healthcare NHS Trust, Fulham Palace Road, London, W6 8RF, United Kingdom*

*E-mail: [helen.alexander9@nhs.net](mailto:helen.alexander9@nhs.net)*

#### **Conflicts of interest**

None disclosed.

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