

Hidradenitis suppurativa flares following COVID-19 vaccination: A case series



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INTRODUCTION

Hidradenitis suppurativa (HS) is a chronic, inflammatory, and debilitating skin disease, which usually occurs after puberty with painful, deep-seated, inflammatory lesions in the apocrine gland-bearing areas of the body.¹

Several cases regarding flaring of inflammatory dermatoses after COVID vaccination have been recently described; particularly, Wack et al² have discussed the safety and efficacy of COVID-19 vaccine in patients with immune-mediated inflammatory diseases.

Moreover, it has been observed that quarantine and the reduction of physical activity during the pandemic may lead to a worsening of chronic skin conditions due to an increased mean body mass index among these patients.³

Herein we describe a case series of 5 patients, 2 men and 3 women, with a worsening of HS following COVID-19 vaccination. Each patient was staged according to the International Hidradenitis Suppurativa Severity Score System (IHS4) and had an increase of these values.

All patient data regarding sex, age, comorbidities, type of vaccine received, current treatment for HS, and clinical scores variation are shown in Table I.

CASE SERIES

Patient 1 is a 32-year-old man with a 4-year history of HS and no other past medical history. His HS lesions were localized to the axillary region with nodules and fistulas, managed with doxycycline 100 mg twice daily with good control. The patient had been classified according to IHS4 9 before vaccination (Fig 1, A). He had acute flares after the first and second COVID-19

Abbreviations used:

HS: Hidradenitis suppurativa
IHS4: International Hidradenitis Suppurativa Severity Score System

vaccinations (IHS4 13) (Fig 1, B), as well as after the third dose (IHS4 12). In each case of recurrence, he had inflammatory and painful nodules localized mainly to the axillary region.

Patient 2 is a 50-year-old woman with a 10-year history of HS. Additional history included being an active heavy smoker and Crohn disease. On physical examination, she had nodules and fistulas located mainly in the inframammary regions (IHS4 8) (Fig 2, A). She was managed with rifampicin 600 mg per day and clindamycin 600 mg per day for 3 weeks with improvement. She had disease flare following the first and second vaccine doses (IHS4 12) (Fig 2, B) as well as the third dose (IHS4 10).

These episodes were characterized by the appearance of new inflammatory nodules and fistulous tracts located on the intramammary region and were managed with clindamycin 300 mg daily for 10 days leading to good results

Patient 3 is a 45-year-old man with a 12-year history of HS. His past medical history included obesity and arterial hypertension. The HS lesions were located mainly in the axillary area, presenting with nodules, fistulas, and abscesses. The patient at baseline had an IHS4 of 10 (Fig 3, A). In the past, he had been treated with topical and systemic antibiotic therapy with poor results, but was well-controlled with adalimumab 40 mg weekly. After the first and second vaccine doses, the patient presented with the appearance of

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Table I. Sex, age, comorbidities, type of vaccine received, current treatment for hidradenitis suppurativa (HS), and clinical scores variation of patients with HS who experienced a worsening after vaccination

Age/sex/ comorbidities	COVID-19 vaccine	Baseline treatment	Baseline IHS4 score	IHS4 score after first dose	IHS4 score after second dose	IHS4 score after third dose	Treatment after flare-ups
32, M	Moderna	Doxycycline 50 mg daily	9	12	11	12	Doxycycline 100 twice a day for 10 days
50, F, Crohn disease	Moderna	Rifampicin 600 mg daily + clindamycin 600 mg daily	8	12	11	10	Clindamycin 300 mg per day for 10 days
45, M, obesity and arterial hypertension	Moderna	Adalimumab 40 mg every week	10	12	13	11	Clindamycin 300 mg per day for 10 days
29, F	Pfizer	Adalimumab 40 mg every week	11	13	13	12	Doxycycline 100 twice a day for 10 days
59, F, psoriasis	Pfizer	Adalimumab 40 mg every week	11	12	12	14	Lymecycline 300 mg per day for 28 days

F, Female; IHS4, International Hidradenitis Suppurativa Severity Score System; M, male.

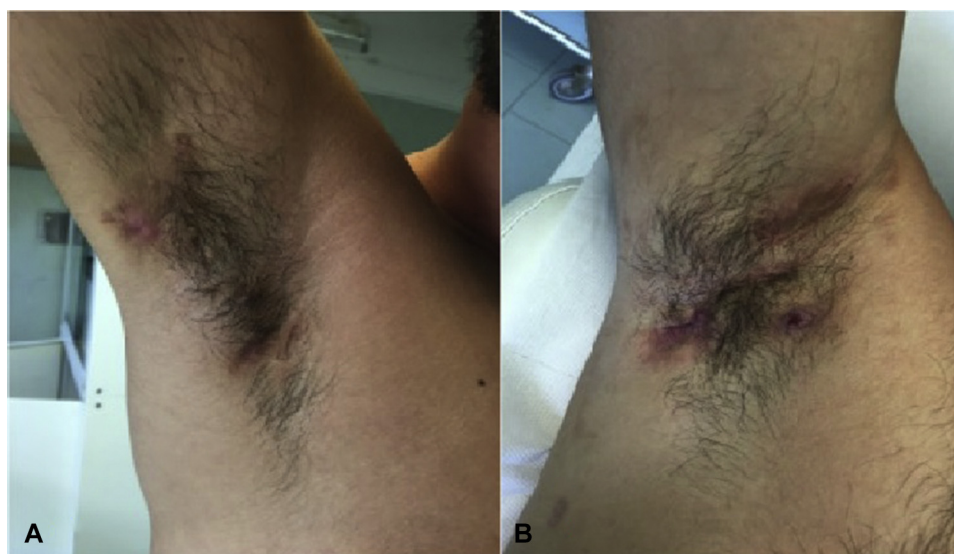


Fig 1. **A**, Patient 1 with nodules and fistulas in the axillary region before vaccination. **B**, Patient 1 with new inflammatory nodules localized mainly to the axillary region after the first and second dose of COVID-19 vaccination.

new inflammatory nodules, abscesses, and fistulas and was staged as IHS4 13 (Fig 3, B). Clindamycin 300 mg daily for 10 days was added with each flare and yielded clinical improvement. He had a similar flare after his third dose, although of lesser severity than previous flares (IHS4 11).

Patient 4 is a 29-year-old woman with a history of HS lasting for about 5 years characterized by nodules and fistulas located mainly in the inguinal region. She was staged IHS4 11 at baseline. She previously failed antibiotic therapy (rifampicin 600 mg daily + clindamycin 600 mg daily) and therefore was started on adalimumab (40 mg every

week) with good control for 6 months prior to vaccination. Similar to the aforementioned patients, she experienced acute flares after her first and second vaccine doses (IHS4 13) as well as the third dose (IHS4 12). Each of these episodes was successfully treated with doxycycline 100 mg twice daily for 10 days.

Patient 5 is a 59-year-old woman affected by HS for approximately 5 years. She was a heavy smoker with a 10-year history of psoriasis. She presented with nodules and fistulas localized mainly in the mammary and axillary regions (IHS4 11), not responsive to antibiotic therapy and currently on treatment with adalimumab for approximately 1 year with

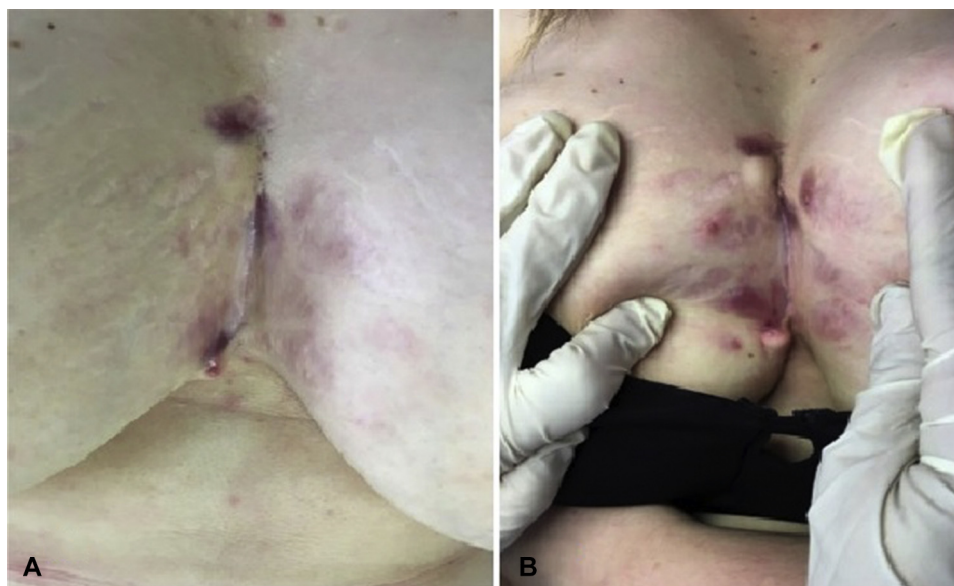


Fig 2. A, Patient 2 with nodules and fistulas in the intramammary region before vaccination. **B,** Patient 2 with flare-ups of manifestations and new inflammatory nodules and fistulous tracts after the first and second dose of COVID-19 vaccination.

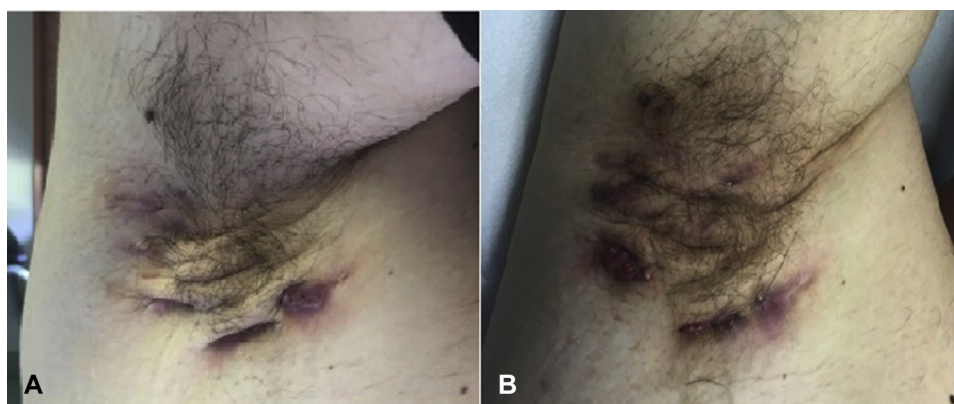


Fig 3. A, Patient 3 with nodules, fistulas, and abscesses in the axillary region before vaccination. **B,** Patient 3 with flare-ups of manifestations and new inflammatory nodules, abscesses, and fistulas after third dose of COVID-19 vaccination.

good results for both HS and psoriasis. She presented after the first and second vaccine doses with slight worsening (IHS4 12). These flares were managed with intralesional steroids (triamcinolone acetonide) (Table I) in addition to continuation of adalimumab. After the third vaccine dose, the patient returned with a more pronounced worsening than the previous ones (IHS 14). She began antibiotic therapy with lymecycline 300 mg daily for 1 month until complete remission.

DISCUSSION

We report our experience regarding the effect of COVID-19 vaccination on the course of some patients suffering from HS.

Based on the available literature, we decided that a flare occurring after vaccination was not a contraindication for the second or third doses.^{4,5} Therefore, patients continued their therapy, and flares were managed with antibiotic dose intensifications or by intralesional steroids. Indeed, worsening of HS lesions remitted within 1 month after every flare. In order to better characterize this phenomenon, we conducted a telephone survey with the purpose of identifying other similar cases. No worsening after COVID-19 vaccination was reported by 207 vaccinated patients with HS who responded to the survey. Another 15 patients responded to our interview stating that they had not been vaccinated for personal reasons.

The pathophysiologic mechanism underlying this correlation is currently not well defined.

However, some authors have shown how the COVID-19 vaccine may inhibit the T helper 2 cell pathway and at the same time promote the T helper 1 cell pathway,⁶ which has been widely demonstrated to be at the basis of the development and worsening of the manifestations of HS.⁶ This correlation should be investigated by further studies.

Patients with HS are difficult to treat given their frequent comorbidities and inadequate response to currently available therapies.⁷

Our experience suggests that although vaccination may be associated with worsening of HS, flares can be well managed with rescue therapy.

Conflicts of interest

None disclosed.

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