

COVID-19 vaccination among patients with cicatricial alopecia: patient concerns, experiences, and treatment modifications

Keywords: cicatricial alopecia, central centrifugal cicatricial alopecia, COVID19, frontal fibrosing alopecia, lichen planopilaris, scarring alopecia

Dear Editor,

Cicatricial alopecias (CA), including lichen planopilaris (LPP), frontal fibrosing alopecia, and central centrifugal cicatricial alopecia, are commonly treated by topical and/or systemic immunomodulatory therapies. There is limited information about COVID-19 vaccination among patients on immunosuppressive treatments due to exclusion of these patients by trial design.¹ CA patients may be concerned about vaccine efficacy and potential vaccine effects on their CA symptoms. To better inform providers and patients on this issue, we conducted a survey study to evaluate CA patient COVID-19 vaccination concerns and the effects of the vaccine on their CA symptoms and treatments.

An email survey was distributed to 5,103 Cicatricial Alopecia Research Foundation patient members in April 2021. Respondents were 18 years or older with known CA diagnosis. The survey link was accessed by 969 Cicatricial Alopecia Research Foundation members, and 317 completed surveys (32.7%). Participants were 60.2 years of age on average and most were female (95.3%), white (74.4%), and had a diagnosis of LPP/FFA (74.5%) or central centrifugal cicatricial alopecia (13.9%) (Table 1).

Most (94.8%) of the participants had received at least 1 dose of the COVID-19 vaccine at the time of survey (Table 1). Nearly 80% (79.7%) had completed full vaccination with 1 or 2 required doses. Most (93.0%) received an mRNA vaccine while the minority (7.0%) received a viral vector vaccine. Many patients experienced common vaccination side effects including injection site tenderness, fatigue, and fever. Only 2 patients required hospitalization for vaccine reaction.

Concerns regarding worsening CA due to COVID-19 vaccination were not uncommon amongst participants, including fears of increased hair loss (34.3%), increased scalp symptoms (35.3%), and alopecia treatment modification to ensure safe vaccination (26.0%, Table 2). Few participants attributed increased hair loss (8.0%) or scalp symptoms (15.4%) to the vaccine. By the time of the survey, most participants' CA symptoms had normalized.

Only 4.8% of participants altered alopecia treatment due to the vaccine. Specifically, 3.2% stopped or paused systemic treatment (hydroxychloroquine, methotrexate, doxycycline, or mycophenolate mofetil) and 0.64% stopped or paused topical immunomodulating treatment. Of those who stopped or paused treatment, 80.0% did so per physician recommendation or due to personal concerns regarding potential

medication effect on vaccine efficacy. Few participants who noted worsened hair loss or scalp symptoms post-vaccine had altered their alopecia treatments (12.0% and 10.4%, respectively).

While COVID-19 vaccinations are expected to be safe for patients on immunotherapy, vaccine efficacy may be influenced by immunosuppression status.¹ Methotrexate specifically has been shown to have negative immunogenic effects following COVID-19² and other vaccinations, which has resulted in some guidelines recommending pausing methotrexate treatment for 2 weeks following the COVID-19 vaccination.³ Based on our results for CA patients, such pauses in treatments are not likely to worsen CA symptoms.

Based on our survey study results, physicians can reassure CA patients about the low risk of worsened CA due to COVID-19 vaccination. This is especially important in the CA population, who may be at increased risk of serious COVID-19 infection due to age and other comorbidities. COVID-19 vaccination benefits outweigh the low risks of worsened hair and scalp symptoms in those with CA.

Author contributions

KE, JP, MS, MC, SA, WB: Participated in research design, the writing of the paper, the performance of the research, contributed

What is known about this subject in regard to women and their families?

- Cicatricial (scarring) alopecias, including lichen planopilaris, frontal fibrosing alopecia, and central centrifugal cicatricial alopecia, most commonly affect women.
- Cicatricial alopecias are commonly treated by topical and/or systemic immunomodulatory therapies.
- Patients on such immunomodulating treatments were excluded from COVID-19 vaccination trials.

What is new from this article as messages for women and their families?

- Concerns among cicatricial alopecia patients regarding worsening hair loss and scalp symptoms due to COVID-19 vaccination were not uncommon, but few patients experienced such worsened symptoms after vaccination.
- Few cicatricial alopecia patients altered their alopecia treatments around the time of COVID-19 vaccination due to potential medication effect on vaccine efficacy.
- Physicians can reassure cicatricial alopecia patients about the low risk of worsened symptoms due to COVID-19 vaccination.

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Table 1
Demographics and COVID-19 vaccination status of survey participants

Category	Survey responses (n = 317)
Age, average ± SD	60.2 ± 11.9
Race, ethnicity, or origin, n (%)	
American Indian or Alaska Native	1 (0.3%)
Asian or Pacific Islander	1 (0.3%)
Black or African American	56 (17.7%)
Hispanic or Latino	7 (2.2%)
Middle Eastern or North African	1 (0.3%)
White	236 (74.4%)
Other	4 (1.3%)
Sex, n (%)	
Female	302 (95.3%)
Male	12 (3.8%)
Did Not Answer	3 (0.9%)
Alopecia diagnoses, n (%)	
LPP	92 (29.0%)
FFA	88 (27.8%)
Both LPP/FFA	56 (17.7%)
Central centrifugal cicatricial	44 (13.9%)
Alopecia mucinosa	2 (0.6%)
Multiple cicatricial diagnoses	12 (3.8%)
Dissecting cellulitis/folliculitis decalvans	3 (0.9%)
Other	20 (6.3%)
COVID-19 vaccination status	
Received vaccine (at least 1 dose)	312 (94.8%)
Moderna	122 (39.1%)
Pfizer	168 (53.9%)
Johnson & Johnson	12 (3.9%)
AstraZeneca	10 (3.2%)

FFA, fibrosing alopecia; LPP, lichen planopilaris.

^aCombination of cicatricial disease other than concomitant diagnosis of LPP and frontal FFA.

analytic tools, and data analysis. CW, IPW, RW, JP: Participated in the writing of the paper and in data analysis.

References

- Gresham LM, Marzario B, Dutz J, Kirchof MG. An evidence-based guide to SARS-CoV-2 vaccination of patients on immunotherapies in dermatology. *J Am Acad Dermatol* 2021;84:1652–66. doi:10.1016/j.jaad.2021.01.047.
- Mahil SK, Bechman K, Raharja A, et al. The effect of methotrexate and targeted immunosuppression on humoral and cellular immune responses to the COVID-19 vaccine BNT162b2: a cohort study. *Lancet Rheumatol* 2021;3:e627–e637. doi:10.1016/S2665-9913(21)00212-5.
- Sonani B, Aslam F, Goyal A, Patel J, Bansal P. COVID-19 vaccination in immunocompromised patients. *Clin Rheumatol* 2021; 40:797–798. doi:10.1007/s10067-020-05547-w.

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Table 2
COVID-19 vaccination and hair/scalp concerns and symptoms among cicatricial alopecia patients

Patient experience with COVID-19 vaccination:	Survey responses who received vaccine (n = 312)
Experienced concern regarding potential effect of COVID-19 vaccination on	
Hair loss	107 (34.3%)
Scalp symptoms	110 (35.3%)
Cicatricial alopecia treatments	81 (26.0%)
Changed alopecia medications due to COVID-19 vaccination	
Yes – changed a medication	15 (4.8%)
Stopped or paused medication	12 (80.0%)
Increased dose/frequency	1 (6.7%)
Decreased dose/frequency	1 (6.7%)
Started new medication	1 (6.7%)
Reason for medication change:	
Recommendation from physician	8 (53.3%)
Personal concern about medication effects on vaccine efficacy	7 (46.7%)
Increased hair loss related to vaccine	
Yes	25 (8.0%)
Mild	14 (56.0%)
Moderate	7 (28.0%)
Severe	4 (16.0%)
Had changed a medication due to vaccine	3 (12.0%)
Hair loss has since normalized	16 (64.0%)
Increased scalp symptoms related to vaccine	
Yes	48 (15.4%)
Mild	26 (54.2%)
Moderate	20 (41.7%)
Severe	2 (4.2%)
Had changed a medication due to vaccine	5 (10.4%)
Scalp symptoms have since normalized	30 (62.5%)

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