COVID-19 SPECIAL FORUM

Rapidly progressive alopecia areata totalis in a COVID-19 patient, unresponsive to tofacitinib

Dear Editor,

Alopecia areata (AA) is a common autoimmune disease characterized by non-scarring hair loss.[1] Tofacitinib is an effective oral JAK 1/3 inhibitor that can block IL-2, IL-7 and IL-6 and is reported as an option for alopecia areata treatment.[2,3] Though some JAK inhibitors are possible new treatments for severe acute respiratory syndrome coronavirus disease, no treatment of COVID-19 with tofacitinib has been reported to date and the withdrawal of the drug in patients with alopecia areata that become infected with the virus is controversial.[4]

We report a 24-year-old female patient with alopecia areata *totalis* (AAT) who tested positive for COVID-19 while using tofacitinib 5 mg BID during the last 12 months. Prior to the infection, she had a complete hair regrowth with no signs of disease activity. The patient presented with anosmia and ageusia and was tested positive for SARS-CoV-2 (COVID-19) polymerase chain reaction. Tofacitinib was discontinued for 14 days when she developed a sudden intense anagen effluvium. Tofacitinib was restarted at the 15th day, at the same dose, without any improvement of the anagen effluvium after 3 months (Figs 1 and 2).

The worsening of the alopecia areata lesions and reactivation of the disease could be due to the sudden suspension of the drug, but the unresponsiveness to the reintroduction of tofacitinib points out to a possible direct effect of the virus towards the hair follicle. The role of COVID-19 in postinfection hair shed is

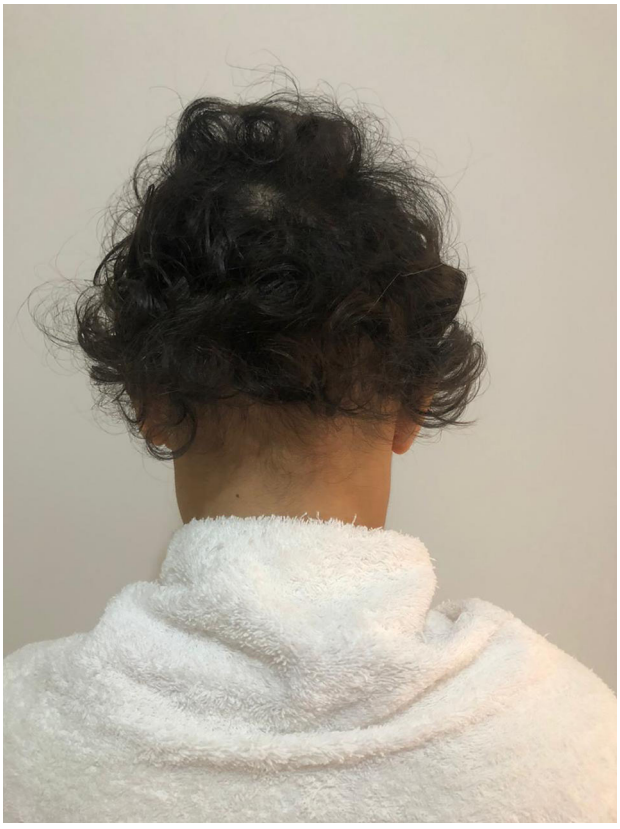

Figure 1 Patient, before the pandemic, with a full-grown hair and no signs of disease activity, using tofacitinib 5 mg BID.

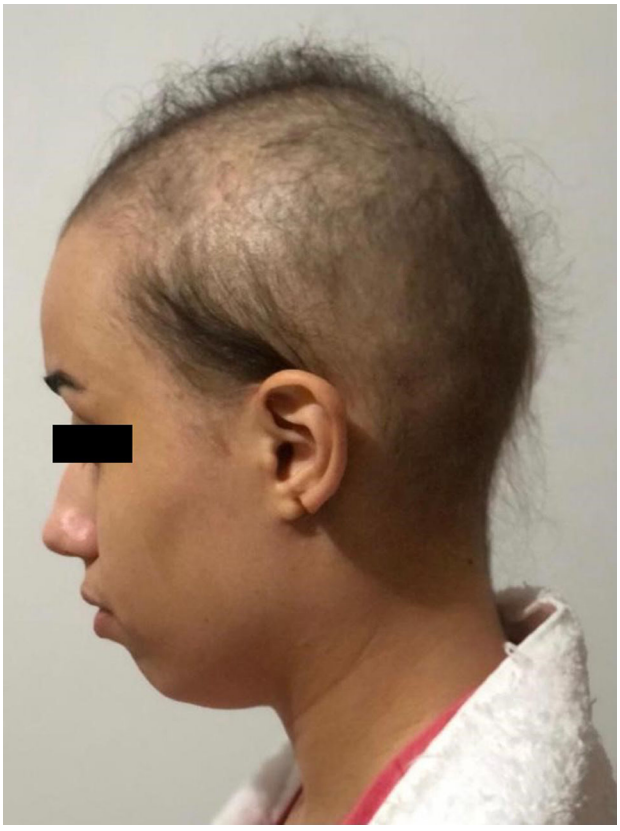

Figure 2 Active alopecia areata 90 days after reintroduction of tofacitinib 5 mg BID. Dermoscopy shows exclamation mark hairs, black and yellow dots.

unknown since only few cases of AA and early onset of telogen effluvium have been reported.[6–8]

The secretion of granzymes, perforins, granulysin and Fas ligand, which trigger programmed cell death, are common pathways involved in both viruses and alopecia areata inflammation.[5] COVID-19 could break the hair follicle immune privilege and activate $CD8^+$ cytotoxic cells and increase the secretion of IFN gamma, leading to an extensive immune response and cell disruption. An anagen effluvium during COVID-19 infection may represent a possible mechanism of the virus towards the hair follicle, as described in dengue (DENV). DENV is capable of causing a direct injury to the hair follicle leading to inflammation and cell death.[6–8]

Alopecia areata cases seem to have increased during the pandemic, but it is not clear whether this estimative is due to the psychological stress of the quarantine conditions or to subclinical infection of COVID-19.[8–10]

The continuous use of the JAK inhibitors in AA patients who develop COVID-19 infection is still controversial.

This case report demonstrates that, in patients with AA and COVID-19, the withdrawal of tofacitinib may lead to a persistent unresponsive anagen effluvium. The real effect of COVID-19 to hair follicle is still unclear, but the reactivation of the AA during COVID-19 infection may represent a possible mechanism of the virus towards the hair follicle immune privilege.

We recommend testing all patients with anagen or telogen effluvium, for COVID-19.

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Conflict of interest

The authors have no conflict of interest to declare.

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Updated international expert recommendations for the management of autoimmune bullous diseases during the COVID-19 pandemic

Dear Editor,

The SARS-CoV-2 pandemic has worsened since the publication of our initial recommendations for the management of autoimmune bullous diseases (AIBDs) during the COVID-19 outbreak in April 2020.[1] Based on the rapidly emerging increase in knowledge, this consensus of an expanded panel of international AIBD experts proposes updated recommendations to promote the optimal care of AIBD patients during the pandemic. The updated scientifically based guidance specifically pertains to the following questions:

What do we recommend for AIBD patients considering the effects of immunomodulating therapy on SARS-CoV-2 infection?

Patients with AIBDs treated with immunosuppressive therapies are generally prone to develop opportunistic infections,[2,3] which raised concerns that they could be more susceptible to SARS-CoV-2 infection and/or have worse COVID-19 outcomes.