Received: 19 May 2021 | Accepted: 5 July 2021

DOI: 10.1111/dth.15057

DERMATOLOGIC THERAPY WILEY

LETTER

The initial experience of COVID-19 vaccination in autoimmune blistering diseases patients from a reference care center in Italy

Dear Editor,

Vaccines to prevent SARS-CoV-2 infection are considered the most promising approach in controlling the pandemic and COVID-19 vaccine development is proceeding at an unprecedented pace.

Because of limited vaccine supplies, each state has provided strategic guidelines and recommendations for vaccine allocation approaches that maximize the individual and societal benefits of vaccination. These recommendations generally propose initially vaccinating those with increased risk factors for a severe course, as well as those employed in critical sectors.

Regarding patients suffering from autoimmune blistering diseases (AIBD), it has not yet been established whether they have a greater risk of be infected with SARS-CoV-2 compared with healthy individuals.[1] However, because of the immunosuppressive background of the autoimmune disorder itself and the immunosuppressive drugs used in the treatment of these diseases, it is reasonable to think that these patients have a higher susceptibility to bacterial and viral infections.[2,3] For this reason, EADV guidelines recommend checking for an up-to-date vaccination status before starting an immunosuppressive treatment and regularly performing standard vaccinations (influenza, pneumococci, tetanus, pertussis, etc). The only contraindication is the use of live vaccines in patients treated with adjuvant immunosuppressants and rituximab.[4]

Currently in Italy four approved vaccines with excellent safety profiles and good immunization rates are available for the prevention of COVID-19: the BNT162b2 (Pfizer-BioNTech), mRNA-1273 (Moderna), ChAdOx1 nCoV-19/AZD1222 (University of Oxford/AstraZeneca), and Ad26.COV2.S (Janssen/Johnson & Johnson). While the first two utilize mRNA delivered in a lipid nanoparticle to express a full-length spike protein, the vaccines produced by AstraZeneca and Janssen are based on a replication-incompetent adenovirus vector.

To date, the immunogenicity and efficacy of the vaccines in immunocompromised patients are not known because none of the vaccine trials included this category of patients. However, vaccinations in general are classically mentioned in the literature among possible trigger factors of AIBD as there is some evidence of AIBD induction or exacerbation as a consequence of different types of vaccines, but obviously none yet for COVID vaccination. Although the underlying immunological mechanism is unclear, the most acceptable hypothesis involves the possible molecular mimicry existing between viral and epidermal proteins together with the over activation of the immune system as a consequence of the immunization.[5,6]

Herein, we report our experience with around 420 patients suffering from AIBD and in treatment with immunosuppressive drugs currently referring to our Bullous Diseases Outpatient Service, Sant'Orsola Hospital, Bologna, Italy. To date, 218 of these patients have been vaccinated (125 using Pfizer-BioNTech; 82 AstraZeneca; and 11 Moderna).

In general, we do not adjust maintenance immunosuppressive medications (corticosteroids, methotrexate, mycophenolate, azathioprine, and oral cyclophosphamide) around the time of vaccination to avoid the risk of a flare of the AIBD. Only in patients treated with rituximab do we initiate the vaccine series approximately 4 weeks prior to the next scheduled cycle and delay the vaccine doses 4 weeks after the infusion. This strategy is in line with expert guidance from the American College of Rheumatology COVID-19 Vaccine Clinical Guidance Task.[7] In our experience, no patient experienced a flare of the AIBD and 80 patients reported transient and mild side effects, similar to those seen in the general population.

All available COVID-19 vaccines are non-live, so they should pose no risk to patients with immunodeficiency conditions, nor those undergoing immunosuppressive treatment, and no formulation is preferred over another for immunocompromised patients. The ideal timing of vaccination in the iatrogenic immunodeficiency setting is not known. Although vaccine response may be attenuated in this category of patients, vaccine response can be quantified by titers, which might be useful in the future in deciding whether to revaccinate the patients.

In conclusion, we are convinced that while the immunogenicity and efficacy of COVID-19 vaccines remain uncertain in immunocompromised patients, the potential benefit from vaccination likely outweighs any risk. Although further studies will be needed to define the efficacy of SARS-Cov2 vaccines in AIBD patients undergoing immunosuppressant treatments, in our opinion their immunization is highly recommendable. In the lack of official guidelines, we currently suggest evaluating case-by-case the risk–benefit ratio of maintaining the ongoing immunosuppressive therapy before performing the vaccine.

Federico Bardazzi and Diego Abbenante contributed equally to this study.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTION

All authors contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript. All authors have read and approved the final version of the manuscript.

DATA AVAILABILITY STATEMENT

The datasets generated and analyzed during the current study are available on request.

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