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Insights into Sars-CoV-2 vaccination in patients with chronic plaque psoriasis on systemic treatments

Dear Editor,

Two vaccines against COVID-19 have recently been approved by the FDA and EMA: BNT162b2 (BioNTech, Mainz, Germany and Pfizer, Pfizer Inc., New York, NY, USA) and mRNA-1273 (Moderna, Cambridge, MA, USA). Both vaccines utilize mRNA that enters the patient cell and uses host protein transcription pathways to express viral spike proteins which then stimulate a specific antibody and T-cell-mediated immune response.[1] They are both administered in two intramuscular doses: 3 weeks apart for BNT162b2, 4 weeks apart for mRNA-1273. Phase 3 trials showed high efficacy rate in protection against COVID-19[2,3] (95% for BNT162b2 and 94.1% for mRNA-1273) and no major safety concerns, with the most common adverse effects being injection site pain, headache, fever, fatigue, chills and myalgia.[2,3] As patients on immunosuppressive therapy were excluded from clinical trials, there are currently no data on the efficacy and safety of COVID-19 vaccines in those treated with conventional or biologic disease-modifying antirheumatic drugs (DMARDs). However, the COVID-19 vaccine will soon be available also for patients with psoriasis receiving systemic treatments and some considerations are needed in this regard. In terms of safety, both BNT162b2 and mRNA-1273 are expected to be safe in psoriatic patients on immunosuppressants given that they are not live vaccines as recently advised by the EADV Task Forces statements on COVID-19 Vaccination.[4] On the other hand, immunosuppressant treatment may theoretically reduce to some extent the efficacy of COVID-19 vaccines. Conventional and biologic DMARDs have diverse mechanisms of action, which account for their different degree of immunosuppression and/or immunomodulating properties, so that some agents may impair the build-up of an immune response against COVID-19 vaccine more than others. For example, the IL-17A inhibitor secukinumab was proved not to affect the humoral response to influenza vaccine of patients with psoriatic arthritis;[5] similarly, ixekizumab was shown not to suppress humoral immune response to tetanus and pneumococcal vaccination.[6] In a meta-analysis comparing the humoral response to influenza and pneumococcal vaccination in adult patients with rheumatoid arthritis, it was found that methotrexate but not TNF-α inhibitors exposure was associated with reduced 6B and 23F serotype pneumococcal vaccine response.[7] Another important issue is whether psoriatic patients should discontinue their immunosuppressive treatment before and after receiving the vaccine to optimize the efficacy of the vaccination. Of note, since Pfizer-BioNTech and Moderna vaccines are administered 3 and 4 weeks apart, respectively, the drug would need to be discontinued for several weeks and there would be a reasonable risk of psoriasis recurrence, also considering that the vaccination itself stimulate an IFN-γ and TNF-α release from Th1 cells.[8] Ultimately, the durability of the protection against SARS-CoV-2 following vaccination has not been fully elucidated.[2]

In conclusion, weighing the potential benefits and risks, we suggest providing SARS-CoV-2 vaccination for all psoriatic patients on immunosuppressant drugs, because, although they might show to be not as effective as in healthy subjects, they may still provide some degree of protection against COVID-19. In the current and dramatic pandemic, some degree of immunity is better than no degree of immunity at all. Psoriatic patients receiving COVID-19 vaccine and those who had COVID-19 infection should also be advised to continue to follow all current guidance to protect themselves and others, as recently recommended by the EADV task force on quality of life and patient-oriented outcome.[9]

Since there are case reports of immunosuppressed patients (but also immunocompetent individuals) developing COVID-19 reinfection, also psoriatic patients who already had COVID-19 infection should be considered for the vaccination.

Registries enrolling dermatological patients undergoing SARS-CoV-2 vaccination and proactive pharmacovigilance activities especially focusing on patients under immunosuppressants are urgently needed to guide clinical practice.[10]

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Risk of severe allergic reactions to COVID-19 vaccines among patients with allergic skin diseases – practical recommendations. A position statement of ETFAD with external experts

Dear Editor,

Since the introduction of active vaccination against SARS-CoV-2 infection, there has been a debate about the risk of developing severe allergic or anaphylactic reactions among individuals with a history of allergy.[1,2] Indeed, rare cases of severe allergic reactions have been reported in the United Kingdom and North America.[3] By February 2021, a rate of 4.5 severe allergic reactions occurred among 1 million patients vaccinated with the mRNA-based COVID-19 vaccines,[1,3] which is higher than the generally expected rate of severe allergic reactions to vaccinations of around one in 1 million.[4,5]

Warnings have subsequently been issued that 'persons with severe allergies' should not be vaccinated, leading to confusion among patients and vaccinating physicians.

Therefore, the European Task Force Atopic Dermatitis (ETFAD) – in addition to a statement on the use of systemic immunomodulatory treatments for atopic dermatitis (AD) during COVID-19 vaccination[6] – discusses the putative risk of severe allergic reactions to COVID-19 vaccines for patients suffering from allergic skin diseases and give practical recommendations.

Generally, systemic allergic reactions to vaccines are rare, and due to hypersensitivity to components of the formulation of the vaccine such as conjugating agents, preservatives, metals, stabilizers, adjuvants and contaminants.[5] In the case of COVID-19 vaccines, apart from the mRNA, the protein or the vector, one possible elicitor of anaphylaxis could be other ingredients as, for example, polyethylene glycol (PEG) present both in the BioNTech/Pfizer (Comirnaty) and the Moderna (mRNA-1273) vaccines; other additives may be contained in vaccines under development like AZD-1222, NVX.CoV2373 or Ad26.DOV2.S. Based on the available data, the safety and tolerability of COVID-19 vaccines appear to be better than that of, for example, smallpox vaccines.[7,8]

The general recommendation is that AD patients should be vaccinated according to their local or national vaccination plan.[6,7] Patients suffering from allergic skin diseases including AD do not per se have an increased risk of anaphylactic reactions to any COVID-19 vaccine. Precautions should be taken where patients have a history of anaphylaxis to drugs in general, especially to vaccinations, and in patients with systemic mastocytosis or idiopathic anaphylaxis. All these patients should undergo a drug allergy diagnostic work-up for allergy prior to vaccination.[2,5]

Patients with an acute flare of eczema should be actively treated for their AD but vaccination should not be delayed in these patients. The same holds true for patients with urticaria and other allergic diseases.[5]

In selected cases, the use of anti-allergic medication prior to vaccination, such as combined histamine H1 and H2 receptor antagonists plus oral glucocorticoids – may be considered, as it is done in peri-operative anaphylaxis or severe reactions to radiographic contrast media.[9] Such patients should be observed for 30 min after the vaccine injection.

Clear contraindications exist at the moment only for patients with documented severe allergic reactions to ingredients of the respective COVID-19 vaccine.

In the case of anaphylaxis, acute treatment includes intramuscular epinephrine as main pharmacotherapy. Epinephrine autoinjectors should be available at the vaccination centres as well as

