Received: 25 January 2022 | Accepted: 11 March 2022

DOI: 10.1111/pde.14987

COMMENTARY

Pediatric Dermatology WILEY

Comment on "Toxic epidermal necrolysis (TEN) after first dose of Pfizer (BNT162b2) vaccination and pharmacogenomic-based-point-care support: First case report in pediatric and review of literature"

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In this issue, Siripipattanamongkol et al., report a case of toxic epidermal necrolysis (TEN) in a 12-year-old female after her first Pfizer COVID-19 vaccine. The authors provide the patient's HLA profile and propose the creation of a registry of SJS/TEN patients' genomic biomarkers for guidance on COVID vaccination.[1]

This case report highlights an opportunity to discuss how dermatologists can do better with respect to SJS/TEN. Specifically, the need for a stepwise analysis of possible skin vaccine-induced reactions. The key steps involve: (1) a clinical imperative for an accurate diagnosis of a cutaneous reaction, and (2) the necessity of comprehensive causality assessment.

Particularly, in a world of COVID when vaccination represents some freedom during a pandemic, especially survivors of SJS/TEN and their families, who worry whether should they receive a vaccine after a history like the one presented.

SJS/TEN overall is rare and association with vaccination is rarer still. Such causality has been proved neither in the practice nor meta-analyses. Meanwhile, whether and to which extent nocebo response to vaccination plays a role in the development of SJS/TEN is unknown.[2]

To date (March 2022), around five SJS/TEN cases pointed out COVID-19 vaccines as its cause, from more than 10.91 billion doses administered globally,[3] according to surveillance monitoring of adverse effects of COVID vaccination.[4] Therefore, COVID-19 vaccine risk for SJS/TEN is extremely low.

Moreover, COVID-19 vaccines should not be attributed as the cause for SJS/TEN based on the fact the vaccine preceded a rash, which may be entirely coincidental. Drug exposure or any concurrent disease must be ruled out, particularly, in children when SJS/TEN is highly associated with an infection, and in everyone at risk for COVID infection as SJS might have been related directly to it.[5]

We need to be vigilant on what is shared by our colleagues; to be aware of SJS/TEN cases that may be related to vaccination. However, we must understand the biases belonging to each study to correctly interpret their value. Results must be interpreted after having critically judged the methodology and diagnostic approach. As leaders in the care of SJS/TEN, we must provide a safety net for our patients.

We acknowledge that when we treat SJS patients, we are also treating a family. Should we forget to treat them, patients may suffer the consequences of fear-based perceptions portrayed by them. Since the whole family lives terrified of drugs, vaccinations, and SJS/TEN recurrence risk, patients decrease their medical encounters to avoid drug exposure, impacting their overall health.[6]

To counteract this non-irrational fear, dermatologists must manage risk-perception. We must address and reassure all survivors and their significant others' concerns to make the road easier for them.

When deciding to pursue vaccination, the benefits of vaccination versus the worst-case scenario must be outweighed. Having a set plan to act early and patients empowered to recognize incipient symptoms of SJS/TEN should be part of the shared decision-making process.

CONFLICT OF INTEREST

Sylvia Aide Martinez-Cabriales: None. Neil H. Shear received honoraria from AbbVie, Amgen, Bausch Medical, Celgene, Janssen, Leo, Lilly, Novartis, Pfizer, Sanofi-Genzyme, UCB.

DATA AVAILABILITY STATEMENT

Data openly available in a public repository that issues datasets with DOIs.

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REFERENCES

1. Siripipattanamongkol N, Rattanasak S, Taiyaitieng C, et al. Toxic epidermal necrolysis (TEN) after first dose of Pfizer (BNT162b2) vaccination and Pharmacogenomic-based point-of-care support: first case report in pediatric and review of literature. *Pediatr Dermatol*. 2022;39:XXXX.
2. Haas JW, Bender FL, Ballou S, et al. Frequency of adverse events in the placebo arms of COVID-19 vaccine trials: a systematic review and meta-analysis. *JAMA Netw Open*. 2022;5(1):e2143955.
3. Ritchie H, Mathieu E, Rodés-Guirao L, et al. Coronavirus Pandemic (COVID-19). 2020. Published online at OurWorldInData.org. Retrieved from: https://ourworldindata.org/covid-vaccinations [Online Resource].
4. McMahon DE, Amerson E, Rosenbach M, et al. Cutaneous reactions reported after Moderna and Pfizer COVID-19 vaccination: a registry-based study of 414 cases. *J Am Acad Dermatol*. 2021;85(1):46-55.
5. Cebeci Kahraman F, Çaşkurlu H. Mucosal involvement in a COVID-19-positive patient: a case report. *Dermatol Ther*. 2020;33(4):e13797.
6. Dodiuk-Gad RP, Olteanu C, Feinstein A, et al. Major psychological complications and decreased health-related quality of life among survivors of Stevens-Johnson syndrome and toxic epidermal necrolysis. *Br J Dermatol*. 2016;175(2):422-424.

How to cite this article: Martinez-Cabriales SA, Shear NH. Comment on "Toxic epidermal necrolysis (TEN) after first dose of Pfizer (BNT162b2) vaccination and pharmacogenomic-based-point-care support: First case report in pediatric and review of literature". *Pediatr Dermatol*. 2022;39(4):671-672. doi:10.1111/pde.14987