

Gianotti-crosti syndrome after COVID-19 vaccination

Key words: Gianotti-crosti, Covid-19 vaccine, adverse events

Word count: 558

Table count: 1

Figure count: 1

S. Janßen, B. Homey, S. Meller

¹ *Department of Dermatology, Medical Faculty, Heinrich-Heine-University, Duesseldorf, Germany*

Corresponding author:

S. Meller, MD

Department of Dermatology, Medical Faculty, Heinrich-Heine-University Duesseldorf
Moorenstr. 5

D-40225 Duesseldorf, Germany

Phone: + 49 211 810 8055

Fax: + 49 211 811 7316

e-mail: Stephan.Meller@med.uni-duesseldorf.de

Funding sources: none

Conflict of interest: SM reports personal fees and/or grants from Novartis, LEO Pharma, Almirall, AbbVie, AstraZeneca, Sanofi, UCB, Lilly, Jansen Cilag, Milan, and Pfizer, outside the present work. The other authors declare no conflict of interest.

Data availability statement: Data available on request from the authors.

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process which may lead to differences between this version and the [Version of Record](#). Please cite this article as doi: [10.1111/jdv.18626](https://doi.org/10.1111/jdv.18626)

Dear Editor,

Skin manifestations in the setting of SARS-Cov-2 infections have been a huge topic recently in dermatology. Since the beginning of the vaccination campaign, cutaneous reactions after COVID-19 vaccination have been reported in the literature, especially in adults, too ¹⁻⁴.

Here, we present a case of Gianotti-crosti syndrome (GCS) after COVID-19 immunization in a child.

A 5-year-old boy presented to our outpatient clinic with skin eruptions on his face and arms. Four days ago, he was vaccinated against SARS-CoV-2 using Corminaty[®]. He did not have any general flu-like-symptoms, including fever, shivering or headache. He reported mild itching. According to the father, the skin changes appeared on his arms, spread to his face, ears, and started one day after vaccination.

Physical examination revealed symmetrically disseminated papulovesicular eruptions in cheeks, ears, and extensor sides of his upper arms (Fig. 1). The PCR test for SARS-Cov-2 remained negative, anti-spike-antibodies and anti-nucleocapsid-antibodies in the blood were not detectable. Other respiratory diseases caused by cold viruses were excluded by PCR. Serologies for hepatitis A, B, C, parvovirus B19 and CMV resulted negative, such as PCR for herpes simplex and varicella zoster. However, the child went through an EBV infection in the past (Anti-VCA-IgG: 134 ug/ml; anti-VCA-IgM: negative).

Under topical treatment with methylprednisolone BID for two weeks, the lesions resolved slowly. After the second vaccination one month later, he did not developed any cutaneous symptoms.

Gianotti-crosti syndrome or papular acrodermatitis of childhood is a reactive dermatosis which is most frequently related to Hepatitis B und Epstein-Barr-Virus but can also be triggered by multiple pathogens and possibly, vaccines ^{5 6}. It mainly affects infants (1-6 years) and is characterized by an acute onset of monomorphic papular or papulovesicular symmetrical skin lesions in cheeks and the extensor sides of extremities. The underlying immunological mechanism remain elusive. A type IV hypersensitivity reaction is assumed but also IgE mediated responses since respective patients often display elevated IgE and atopic diseases⁵. It is a self-limiting dermatosis and recurrences are uncommon, sometimes topical steroids help shorten disease duration.

In the last two years during the COVID-19 pandemic three cases of GCS in the setting of SARS-Cov2-infections were published ⁷⁻⁹. Villagrasa-Boli et al reported of two adults that suffered of childhood-like papular acrodermatitis after Corminaty[®] vaccination¹⁰. In the pivotal clinical trials of COVID-19 vaccination in adults the most common cutaneous manifestations were local site reactions. Furthermore, a small number of rashes, hypersensitivity reactions, and urticarial have been reported ¹². In real-world setting reactive dermatosis to COVID-19 vaccines which are mostly described include rashes, urticaria or erythema multiforme ³. McMahon et al performed a register-based study in healthcare workers and older people and observed frequently delayed large local reactions, injection

Accepted Article

site reactions, urticarial or morbilliform eruptions⁴. Importantly, “only” 43% of patients suffering of first-dose reactions experienced second-dose recurrence. Català et al recently published a nationwide cross-sectional study in adults and classified six morphological reactions patterns after COVID-19 vaccination including local-injection-site reactions, urticarial and/or angioedema, morbilliform, papulovesicular or pseudo-vesicular, pityriasis rosea-like and purpuric rashes³. Most of these skin lesions were mild and self-limiting or required only topical treatment.

Taken together, adverse cutaneous reactions are common and mostly the clinical management does only require a topical treatment. Importantly, like in the presented case skin eruptions do not necessarily reoccur after administration of the second dose.

1. Gambichler T, Boms S, Susok L, et al. Cutaneous findings following COVID-19 vaccination: review of world literature and own experience. *J Eur Acad Dermatol Venereol* 2022;**36**:172–80.
2. Sun Q, Fathy R, McMahon DE, Freeman EE. COVID-19 Vaccines and the Skin. *Dermatologic Clinics* 2021;**39**:653–73.
3. Català A, Muñoz-Santos C, Galván-Casas C, et al. Cutaneous reactions after SARS-CoV-2 vaccination: a cross-sectional Spanish nationwide study of 405 cases*. *Br J Dermatol* 2022;**186**:142–52.
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. *Journal of the American Academy of Dermatology* 2021;**85**:46–55.
5. Leung AKC, Sergi CM, Lam JM, Leong KF. Gianotti–Crosti syndrome (papular acrodermatitis of childhood) in the era of a viral recrudescence and vaccine opposition. *World J Pediatr* 2019;**15**:521–7.
6. Assaf J, Stephan F, Zeinaty P, Tomb R. A case of recurrent vaccine-triggered Gianotti–Crosti syndrome. *Future Science OA* 2021;**7**:FSO695.
7. Swali RN, Lee EB, Adams JL. Gianotti-crosti syndrome in the setting of recent coronavirus disease-19 infection. *Pediatr Dermatol* 2021;**38**:629–31.
8. Brin C, Sohier P, L’honneur A, et al. An Isolated Peculiar Gianotti-Crosti Rash in the Course of a COVID-19 Episode. *Acta Derm Venereol* 2020;**100**:adv00276.
9. Berná-Rico E de D, Álvarez-Pinheiro C, Burgos-Blasco P, et al. A Gianotti-Crosti-like eruption in the setting of SARS-CoV-2 infection. *Dermatol Ther* 2021;**34**:e15071.
10. Villagrasa-Boli P, Monte-Serrano J, Martínez-Cisneros S, et al. Papular acrodermatitis of childhood-like eruption triggered by SARS-CoV-2 vaccination: Report of two cases. *Dermatologic Therapy* 2021doi:10.1111/dth.15252.

Acknowledgments: The patient's guardians in this manuscript have given written informed consent to publication of their case details.

Figure: Symmetrically disseminated papulovesicular eruptions in cheeks, ears, and extensor sides of the upper arms at day 4 after receiving the first vaccination.



JDV_18626_jeadv-2022-2208-File002.jpg