Unilateral Laterothoracic Exanthema (ULTE) as a Possible Adverse Effect of COVID-19 Vaccine

Sir,

Coronavirus disease 2019 (COVID-19) is caused by a novel zoonotic RNA virus “severe acute respiratory syndrome coronavirus 2” (SARS-CoV-2). Although it primarily affects the respiratory system, extra-pulmonary manifestations have been reported widely. A number of studies from around the world have reported a range of dermatological manifestations associated with COVID-19. Unilateral laterothoracic exanthema (ULTE) is an uncommonly reported condition in adults as it mainly occurs in small children.

We herein report a case of unilateral laterothoracic exanthema (ULTE), in an adult female after vaccination for COVID-19, which has not been reported in the literature to date.

A 30-year-old female presented with complaints of multiple red raised itchy lesions on the left side of the trunk and left thigh of 5 days duration. The lesions were insidious in onset and first appeared on the left flank and left groin. These lesions gradually progressed upward and downward to involve the ipsilateral upper part of the abdomen, back and thigh, respectively over the next 24 h; however, they remained localized to a segment. The lesions were associated with severe itching that disturbed her daily activity. There was no history suggestive of prodromal illness such as fever, body ache, sore throat, or loose motions. There was no history of any drug intake or topical application of cream or chemicals before the onset of the rash. However, she gave a history of receiving the first dose of ChAdOx1 nCoV-19 corona virus vaccine (recombinant), 2 days before the onset of the rash.

General and systemic examination revealed no abnormality. No lymphadenopathy was present. Dermatological examination revealed erythematous maculopapular rash involving the left side of the trunk extending from the upper part of the abdomen and upper back to the ipsilateral mid-thigh [Figure 1]. The mucosa was normal.

Routine hematological and biochemical investigations were within normal limits. Peripheral blood smear did not reveal any abnormality and venereal disease research laboratory (VDRL) test was negative. Serology for herpes simplex 1 and 2 infection was negative. Reverse transcription-polymerase chain reaction assay for active COVID-19 infection was negative. Skin biopsy could not be done as the patient was unwilling. Based on history and examination findings, a clinical diagnosis of unilateral latero-thoracic exanthem was made. Differential diagnosis included contact dermatitis and adverse cutaneous drug reaction, however the onset of rash after vaccination for COVID-19, characteristically involving unilateral side of trunk and thigh, associated with pruritus, with absence of history of drug intake or contact with any chemical or topical agent prior to onset of the rash favored the diagnosis of ULTE.

She was treated with oral antihistamines, topical calamine, and emollient cream application. The rash became dusky red in the next 2 days and subsided after the next 10 days, leaving behind mild post inflammatory hyperpigmentation [Figure 2].

The most common dermatological manifestation of COVID-19 reported so far is erythematous maculopapular rash. The other cutaneous manifestation reported are urticaria, papulovesicular lesions, painful acral erythema, livedo reticularis lesions, purpuria, and petechiae. ULTE has been reported in only few cases of patients with COVID-19 infection but none reported post-vaccination for COVID-19.

Unilateral laterothoracic exanthem is a distinct exanthematous condition, characterized by erythematous skin rash involving one side of the trunk, beginning in the flexural area like the axillae or groin and then spreading centrifugally. It is also known as asymmetric periflexural exanthem of childhood.

The disease was first described by Brunner in 1962 as “new papular erythema of childhood.” The term “unilateral...
Laterothoracic exanthema” was coined by Bodemer and De Prost in 1992, whereas the term “asymmetric periflexural exanthem of childhood” was suggested by Taieb in 1993.[3]

It mostly presents in children in the age ranging from 8 months to 10 years and is rare among adults. There is a female preponderance with the female to male ratio being 2:1.[3] Seasonal preponderance is in late winter and early spring.

The etiology of ULTE is unknown. A possible viral etiology, most commonly Epstein Barr virus and parvovirus B19, has been hypothesized; however, no specific virus trigger was identified.[4]

The characteristic lesions of ULTE are erythematous pinpoint papules coalescing to appear as diffuse morbilliform exanthem, typically first appearing in the periflexural area of the axillae or groin and then spreading centrifugally to involve one side of the trunk. Other morphological patterns observed are scarlatiniform, annular, and eczematous.[5]

The lesions are associated with severe itching and mild local lymphadenopathy in 50% of cases.[3] The rash sometimes may spread to the other side but is predominantly unilateral. The rash spontaneously resolves in 2 to 6 weeks without any complications. The rash is usually preceded by prodromal constitutional symptoms, mild respiratory or gastrointestinal illness.

Differential diagnosis includes allergic contact dermatitis, cutaneous drug reaction, nonspecific viral exanthema, and sometimes atypical pityriasis rosea, superficial fungal infection especially when lesions are associated with scaling.[5]

Skin biopsy is nonspecific with superficial and deep perivascular, interstitial and periadnexal lymphohistiocytic infiltrate in the dermis.

The treatment is usually symptomatic aimed at reducing pruritus. The use of oral antihistamines, topical corticosteroids, emollients, and or topical antipruritic has been suggested.

Based on our literature search using Medline and PubMed, this is the first case report of ULTE associated with the SARS-CoV-2 vaccine. Our patient developed the characteristic rash of ULTE, 2 days after receiving COVID-19 vaccination without any features of viral exanthem such as fever or sore throat. Hence, we attribute this rash to COVID-19 vaccination and we write this report to bring out this unique presentation.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his/her consent for his/her images and other clinical information to be reported in the journal. The patient understands that his/her name and initial will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflict of interest**

There are no conflicts of interest.

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