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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/18356
DOI URL: http://dx.doi.org/10.21474/IJAR01/18356

RESEARCH ARTICLE

VARICELLA-ZOSTER VIRUS INFECTION IN A PATIENT 12 DAYS POST RITUXIMAB: UNUSUAL CO-PRESENTATION OF SHINGLES AND CHICKENPOX

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Manuscript Info

Manuscript History
Received: 28 December 2023
Final Accepted: 30 January 2024
Published: February 2024

Key words:-
Varicella-Zoster Virus, Chickenpox, Shingles, Rituximab, Pemphigus

Abstract

Rituximab, an anti CD20 monoclonal antibody, is used in the management of lymphoproliferative and autoimmune conditions such as pemphigus. As an immunosuppressor, it exposes patients to an increased risk of infection. Two cases of varicella-zoster virus infection post Rituximab were been reported in literature. The coexistence of chickenpox (primary infection) and shingles (reactivation of latent infection) in the same patient has never been reported in the literature, especially after rituximab treatment. Herein we present the first case of association of these 2 manifestations in a patient 12 days after rituximab therapy for pemphigus.

Introduction:-

Varicella-zoster virus (VZV) is responsible for chickenpox or varicella (a contagious diseases usually primary infection in non-immune hosts) (1) and herpes zoster or shingles (following reactivation of latent infection by VZV which remains dormant in the sensory ganglia of the cranial nerve or the dorsal root ganglia after a previous varicella infection).

Varicella occurs in children while herpes zoster occurs in adults or the elderly, especially in cases of immunosuppression (2).

Rituximab, an anti CD20 monoclonal antibody, is used in the management of lymphoproliferative and autoimmune conditions such as pemphigus (3). Immunosuppression is well recognized following treatment by rituximab and VZV reactivation is a relatively uncommon occurrence.

The coexistence of chickenpox and shingles in the same patient has never been reported in the literature, especially after rituximab treatment. Herein we present the first case of association of these 2 manifestations 12 days after rituximab therapy.

Case Report :

A 58-year-old man with no notable antecedents, hospitalized in our dermatology department for pemphigus foliaceus evolving for 1 month treated by on 1mg/kg/d of oral corticoids, who presented 12 days after the first course of 1g of IV rituximab a fever with acute painful skin lesions on his head and the eruption progressed inferiorly over his body and a pain, tingling, dysesthesia and pruritus on the posterolateral side of the neck with otalgia on the homolateral side.

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The physical examination revealed a cutaneous eruption of clear umbilical vesicles on the face, trunk, back and extremities (fig1), associated with grouped vesicles on a red base on the postero-lateral side of the neck following dermatomes of cervical spinal nerve C1 and C2. (fig2)

Results from serolgies (Ig M and Ig G) and viral polymerase chain reaction testing of skin swabs from a vesicle (neck and trunk) confirmed VZV and were negative for herpes simplex virus (HSV) types 1 and 2. Tzanck cytodiagnosis demonstrated ballonizing cells with prominent viral intranuclear inclusions.

The diagnosis of chickenpox and shingles was confirmed and the patient was treated with acivlovir 10mg/kg/8h IV for 10 days and analgesic drug with good improvement.(fig3)

Due this infectious episode, the 2nd rituximab infusion (day 15) was postponed for 1 month.

Discussion:-

B-cell depletion therapy with rituximab undoubtedly represents the most significant advance in the management of pemphigus since the introduction of corticosteroids. Providing complete remission in 80–90% of patients, rituximab will likely remain the best-in-class therapy for years to come, despite the identification of many new potentially druggable pathways (4).

Despite these beneficial effects, as rituximab is an immunosuppressive medication it exposes patients to an increased risk of infection.

2 cases of VZV infection post Rituximab were been reported in literature.

L.M. Mcilwaine et al reported a case of VZV infection in a patient 13 months post Rituximab and autologous stem cell transplantation (5). Then M. Dogra et al reported a case of progressive outer retinal necrosis caused by VZV infection 2 months after rituximab and cyclophosphamide therapy (6).

To the best of our knowledge, our case is the first to report the association of varicella and herpes zoster in the same patient, with a clinical presentation including typical chickenpox and shingles skin lesions.

Primary varicella presents with discrete pruritic papules and vesicles in different evolutionary stages, with the classic description “dewdrop on a rose petal.” The rash typically starts on the head and neck before spreading to the trunk and extremities in a cephalocaudal progression. (7,8)

In shingles the classic skin findings are grouped vesicles on a red base in a unilateral, dermatomal distribution (9).

Figure 1:- Cutaneous eruption of clear umbilical vesicles.

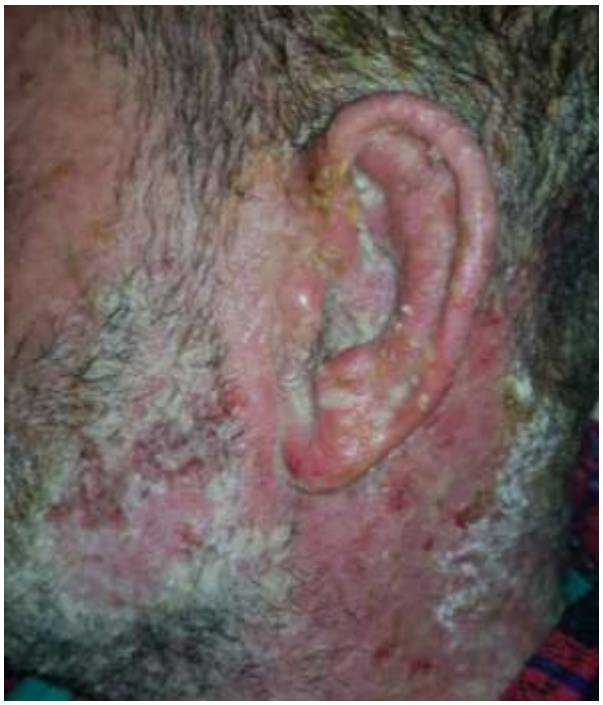

Figure 2:- Grouped vesicles on a red base on the postero-lateral side of the neck following dermatomes of cervical spinal nerve C1 and C2.

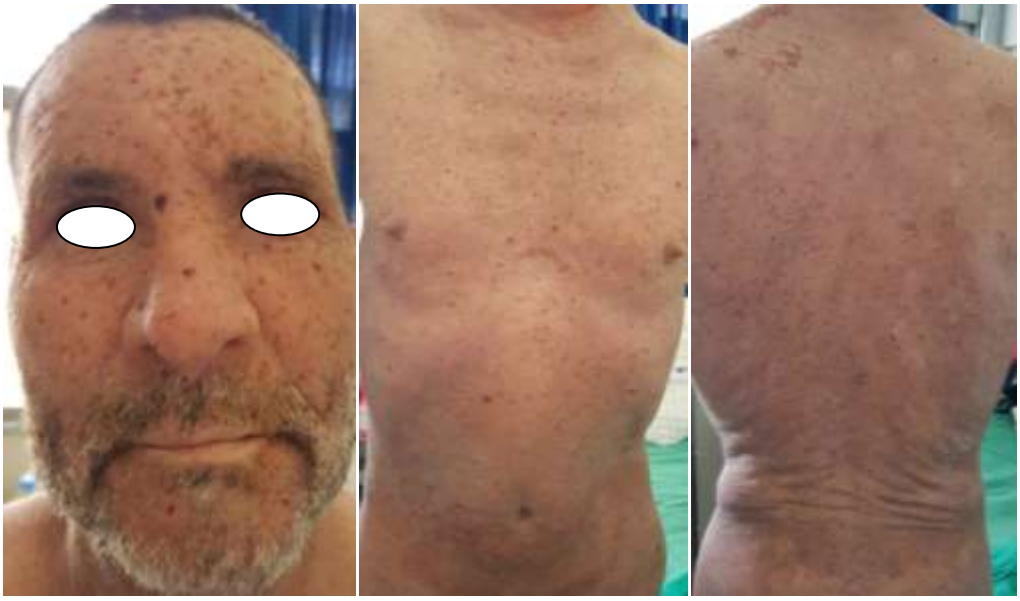

Figure 3:- Clinical improvement 10 days after treatment.

Conclusion:-

Our case highlights the chickenpox-shingles co-presentation and underlines that rituximab increase the infectious risk including primary infection or viral reactivation such as VZV infection. Hence the need to follow up patients treated by Rituximab.

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