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Case Report

Psoriatic Manifestation on a Healed Herpes Zoster Lesion: A Case of Koebner Phenomenon Resistant to TNF- α Inhibitors

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Abstract

Herpes Zoster (HZ) and psoriasis are common cutaneous diseases and in some patients psoriatic manifestations may appear over healed HZ lesions. This manifestation has been defined as Koebner Phenomenon (KP) or Wolf Isotopic Phenomenon (IP).

We report a 35-year-old man with chronic moderate plaque psoriasis who developed KP at the areas of healed HZ. We noticed a lack of response to TNF α inhibitor treatment in the lesions previously affected by HZ. Therefore, we assume that other inflammatory mediators, in particular Substance P, can be related to the psoriatic manifestations over healed HZ lesions.

Keywords

Herpes Zoster; Psoriasis; Substance P; TNF- α ; Etanercept

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Abbreviations

KP: Koebner Phenomenon; IP: Isotopic Phenomenon; HZ: Herpes Zoster; CysA: Cyclosporine A

Introduction

The Koebner Phenomenon (KP) is defined as the appearance of new psoriatic lesions following a trauma/injury to the healthy skin areas of patients affected by psoriasis [1].

Another similar phenomenon also described in literature is Wolf's Isotopic Phenomenon (IP) that refers to the occurrence of a new unrelated dermatosis at the same location of a previously healed dermatosis.

Among the triggers involved in these phenomena is also HZ [2,3].

Furthermore, many inflammatory mediators are related to KP pathogenesis, meanwhile TNF- α appears to have a key role in IP [4,5].

Case Report

We report the case of a 35-years-old patient affected by plaque psoriasis that after 5 weeks of oral CysA treatment (600 mg daily), presented at the hospital referring dorsal burning and pain. Physical examination revealed erythematous vesicles on the corresponding area of left C5-C7 dermatomes, which we ascribed as a HZ, secondary to an excessive dose of CysA. Therefore, we stopped the treatment with CysA and started Valaciclovir. After 2 weeks the HZ lesions were completely healed but the patient came back presenting scaly erythematous plaques on the site of the previous HZ lesion (Fig. 1), elbows and knees (Fig. 2).

The dorsal psoriatic lesions were diagnosed as KP, and a subsequent punch biopsy confirmed the diagnostic suspect. He was treated with topic clobetasol propionate and calcipotriol with rapid clinical resolution. During the follow-up, psoriatic lesions reappeared several times over the healed HZ lesions, when the topic treatment was not applied.

Due to worsening of the PASI index we decided to start systemic treatment with biologic agent, TNF- α inhibitor (Etanercept). After only 1 month of treatment, there was an almost complete resolution of psoriatic lesions on the whole body except for the dermatomes previously affected by HZ about 2 years ago (Fig. 3 and 4).

Figure 1: Psoriatic lesions on the site of previous HZ lesion before Etanercept treatment.

Figure 2: Elbow and knee psoriatic lesions before Etanercept treatment.

Figure 3: Psoriatic lesion on the previous HZ site after 1 month of treatment with Etanercept.

Figure 4: Elbow and knee psoriatic lesions responding to Etanercept treatment.

Discussion

KP pathogenesis involves several inflammatory mediators, including TNF- α , substance P and others. Meanwhile in IP the overexpression of TNF- α (antiviral activity) during the course of HZ is thought to be the main pathological factor [4,5]. Despite the fact that in literature these phenomena are described apart, we think that the underlying mechanism is common and involves the same agents [6].

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We assume that substance P, is the primary mediator involved in the onset of a new psoriatic lesion in a skin site previously affected by HZ. Furthermore, Substance P which acts as a mediator of peripheral nociceptive impulse has also been demonstrated to increase in psoriatic lesions [7].

This hypothesis seems to be confirmed by the persistence of the psoriatic lesion in the site previously affected by HZ even after six months of treatment with Etanercept 50 mg.

Conclusion

In conclusion, we hypothesize that Substance P is the main mediator related to the onset of the psoriatic lesion following the viral injury. Therefore, the use of topical steroids, which inhibit a wide range of inflammatory mediators, would result in a total remission of the psoriatic lesion occurring on healed HZ.

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