LOCALIZED BULLOUS LICHEN PLANUS TRIGGERED BY HERPES ZOSTER (WOLF ISOTOPIC RESPONSE) WITH SECONDARY INVOLVEMENT OF ORAL AND GENITAL MUCOSA

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Summary

Introduction. *Wolf's isotopic response (WIR) refers to the occurrence of a new skin disorder exactly at the site of another, already healed and unrelated. Lichen planus (LP) is an inflammatory skin diseases considered to be triggered by various factors.*

Case presentation. *A 49-year-old male patient presented for a localized bullous eruption on the dorsal face of the right thigh, evolving from 15 days. Three months before he was treated in our department for herpes zoster with the same topographical distribution. Later, patient developed also oral and genital blisters. We performed the diagnosis of bullous lichen planus and we treated the patient with systemic corticotherapy successfully.*

Conclusion. *Our case could be considered as a patient with a predisposition for developing lichen planus in which the HVZ infection triggered the disease onset.*

Key words: *herpes zoster, bullous lichen planus, Wolf's isotopic response.*

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Introduction

Wolf's isotopic response (WIR) refers to the occurrence of a new skin disorder exactly at the site of another, already healed and unrelated. In most of the cases, the first disease is herpes zoster. Frequently, the second diseases are skin carcinomas, granulomatous dermatoses or skin infections, like molluscum contagiosum or tinea Lichen planus (LP) is an inflammatory skin diseases considered to be triggered by various factors. Moreover, nowadays LP is considered as a reactive skin disease. However, in many cases a clear trigger cannot be identified [1, 2].

Case presentation

A 49-year-old male patient presented for a localized bullous eruption on the dorsal face of the right thigh, evolving from 15 days. Three months before he was treated in our department for herpes zoster with the same topographical distribution, with complete remission after 10 days of treatment with acyclovir (2g/day). We

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noted residual pigmentations (Fig. 1a). Clinical examination revealed well defined red to purplish papules and plaques, some of them with postbullous erosions on the surface between 2 to 4 mm (Fig. 1b). The lesions were mightly pruritic. Hair, nails and mucosa were not involved. Histopathological examination showed orthokeratosis, hypergranulosis, colloid bodies, a massive band like lymphocyte infiltrate in the papillary dermis and Max-Joseph spaces (Fig. 2). Based on the clinical and histopathological examinations, the diagnosis of bullous lichen planus was established. The patient received treatment with topical clobetasol propionate 0.05% ointment twice daily. After one month, a marked improvement of the initial lesions was noted, but new well defined postbullous erosions between 4-8 mm on the oral and genital mucosa were observed (Fig. 3 a,b). To exclude a pemphigus vulgaris we performed ELISA test for anti-desmoglein 3 antibodies but the titer value was in normal limits (1: <10). Antibodies anti *Herpes virus simplex* type IgM were also negative. A complete urological examination does not revealed any clinical signs of sexually transmitted diseases. Bacterial culture of the urine was negative, and urography do not showed any pathological changes. The patient was started treatment with prednisone (30 mg/daily) with

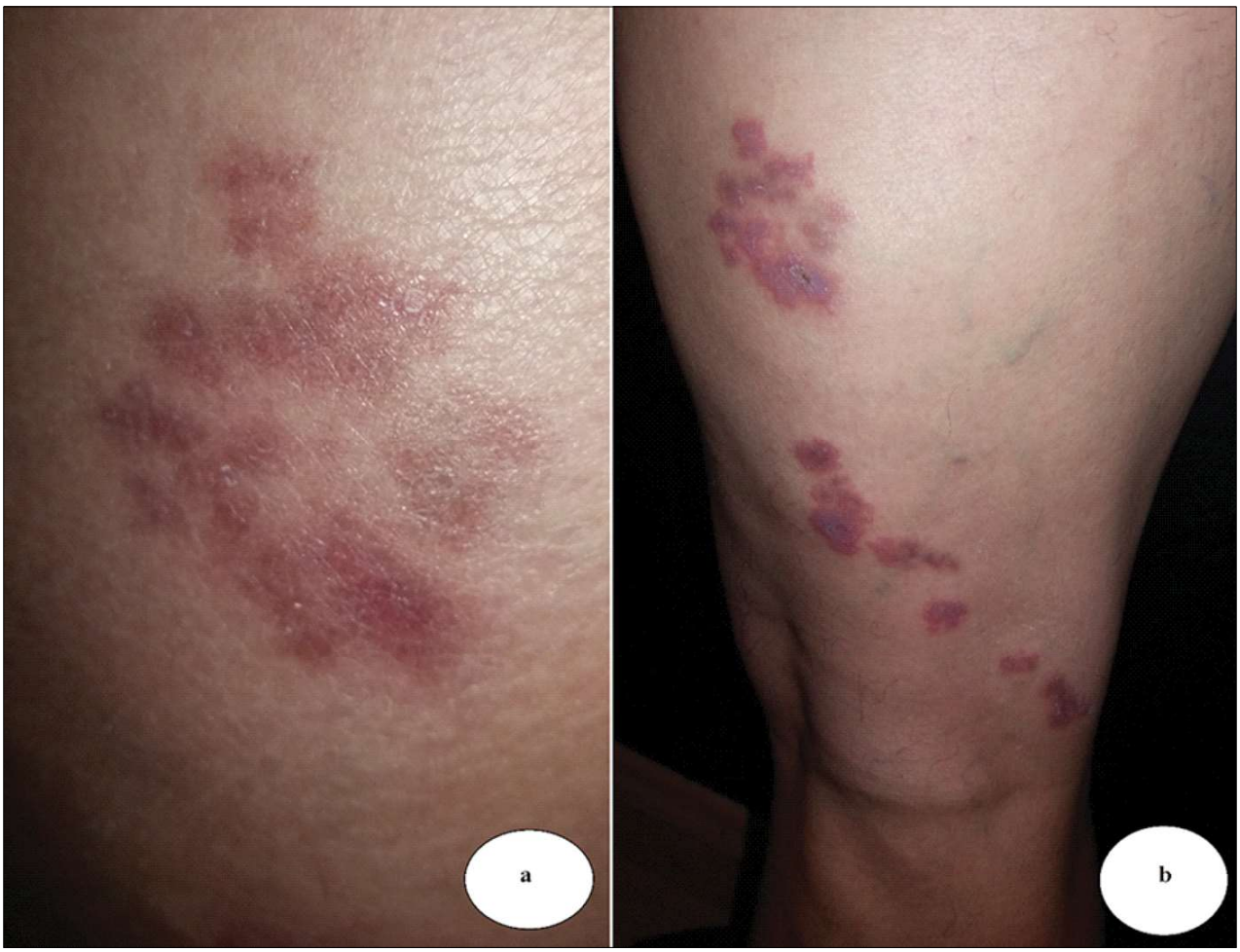

Figure 1. a) Residual pigmentations after healed herpes zoster infection; b) Violaceous plaques, some of them with erosions on the site of previous herpes zoster infection.

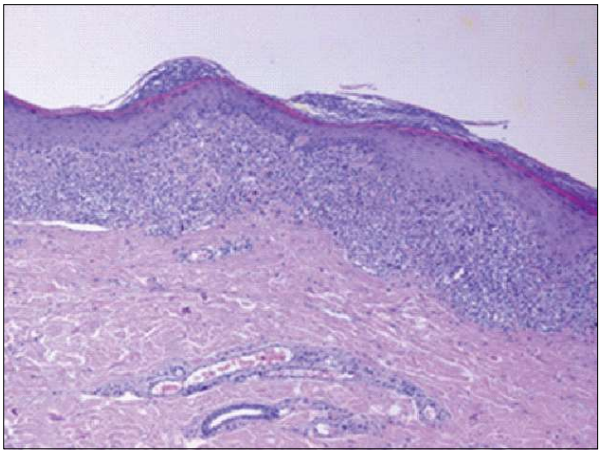

Figure 2. Orthokeratosis, hypergranulosis, colloid bodies, a massive band like lymphocyte infiltrate in the papillary dermis and Max-Joseph spaces.

completely resolution of the lesions in 5 weeks, and after that we slowly tapered the dose. No recurrences were noted.

Discussions

WIR is related most probably to the nerve destruction by herpes zoster with the secondary vulnerability of the skin area to different triggers [3]. The most common, second dermatoses reported in the literature are granuloma annulare and skin carcinomas [1]. Isolated cases of morphea, lymphangioendothelioma, molluscum contagiosum and bullous pemphigoid were also reported [4,5,6]. Lichen planus is considered to be reactive skin disease with genetic predisposition and the onset can be triggered by local irritant

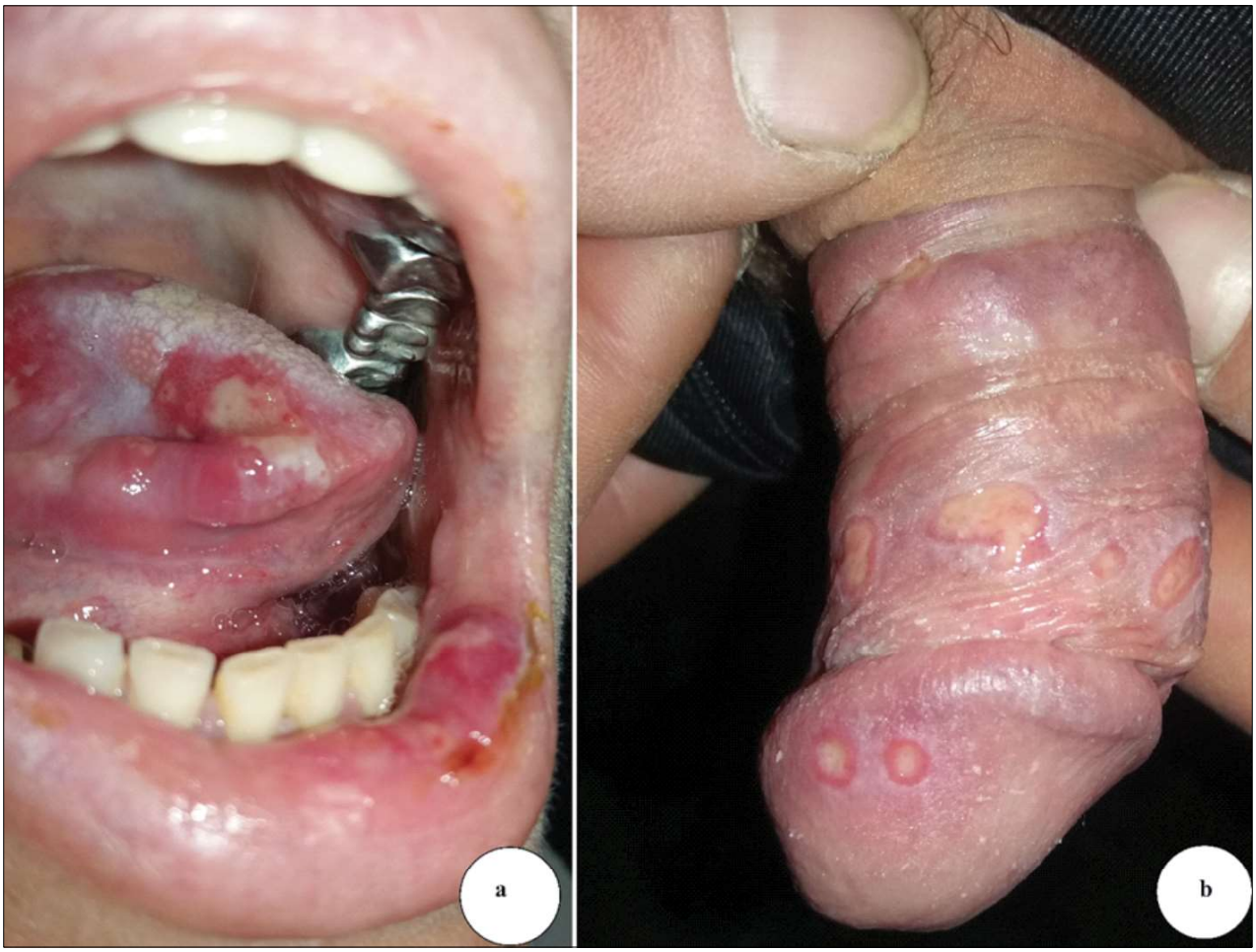

Figure 3. a,b) Well-defined erosions on the oral and genital mucosa after one month from the onset.

factors like dental prosthetics or systemic diseases like hepatitis C where seems that the virus act as a trigger for skin lymphocites with clinical development of the skin infalammation. Mahajan et al report the only case of lichen planus as the secondary dermatosis under the umbrella of Wolf's isotopic response. The lesions developed at the site of dermatofibrosarcoma protruberans that had been previously treated with surgery and radiotherapy [7]. It is an interesting report of Lee et al that described the development of cutaneous lesions of lupus after a herpes zoster episode in a young girl known with systemic lupus erythematosus [8]. Veien et al sustained that patients with lichen planus has greater incidence of HLA-A3 antigen [9]. HLA-A3 antigen was also positive in our patient

Conclusions

Our case could be considered as a patient with a predisposition for developing lichen planus in which the HVZ infection triggered the disease onset.

Bibliography

1. Wolf R, Brenner S, Ruocco V et al. Isotopic response. *Int J Dermatol*.1995;34(5):341-348.
2. Wolf R, Ruocco V, Filioli FG. Isotopic response. *Br J Dermatol*. 1997;136(3):466-467.
3. Ruocco V, Ruocco E, Ghersetich I et al. Isotopic response after herpesvirus infection: An update. *J Am Acad Dermatol*. 2002;46:90–94.
4. Noh TW, Park SH, Kang YS et al. Morphea developing at the site of healed herpes zoster. *Ann Dermatol*. 2011;23(2):242-245.
5. Schnebelen AM, Page J, Gardner JM et al. Benign lymphangioendothelioma presenting as a giant flank mass. *J Cutan Pathol*. 2015;42(3):217-221.
6. Gurel MS, Savas S, Bilgin F et al. Zosteriform pemphigoid after zoster: Wolf's isotopic response. *Int Wound J*. 2016;13(1):141-142.
7. Mahajan R, De D, Saikia UN. Wolf's Isotopic Response: Report of a Case and Review of Literature. *Indian J Dermatol*. 2014; 59(3): 275–282.
8. Lee NY, Daniel AS, Dasher DA et al. Cutaneous lupus after herpes zoster: isomorphic, isotopic, or both?*Pediatr Dermatol*. 2013;30(6):e110-113.
9. Veien NK, Risum G, Jørgensen HP et al. HLA antigens in patients with lichen planus. *Acta Derm Venereol*. 1979;59(3):205-259.

Conflict of interest
NONE DECLARED

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