

Wolf's isotopic response - Rupoid psoriasis developing on healed lesions of varicella

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Abstract Occurrence of an unrelated disease on the site of a healed disease is known as Wolf's isotopic response. There are reports of various diseases occurring as isotopic response on healed lesions of herpes zoster commonly. We report a case of rupoid psoriasis developing on healed lesions of varicella in a young boy.

Key words

Isotopic response, varicella, rupoid psoriasis.

Introduction

Occurrence of a different or unrelated dermatological disease at the site of the healed disease is termed as isotopic phenomenon.¹

There are a lot of cases reported on this phenomenon. Commonly herpes zoster is the initial disease on which granuloma annulare, sarcoidosis appear. In literature there is only one reported case of psoriasis developing on healed lesions of herpes zoster.² We report a case of rupoid psoriasis developing as isotopic response after chicken pox.

Case Report

A 16-year-old boy presented to us with multiple scaly plaques all over the body including scalp and genitalia for last 10 days (**Figure 1**). He had history of chicken pox one month prior to the onset of these plaques for which he took acyclovir as evident from his prescription. The

new lesions appeared over the spots and scars of varicella as reported by the patient. On examination multiple hyperpigmented scaly nontender plaques with an erythematous border were present in a generalized pattern including the scalp and genitalia (**Figure 2**) and lower limbs (**Figure 3**). The scales were limpet like. Patient also had urethral discharge. There was no history of any sexual relationship. There was no history of arthropathy. There was no lymphadenopathy or any mucosal lesions. Palms and soles were unaffected. Hair, nail, eyes and systemic examination were unremarkable. Routine blood tests were within normal limits. His VDRL test was also negative. The lesions were clinically diagnosed as rupoid psoriasis. Biopsy for histology confirmed it as psoriasis (**Figure 4**). The patient was given weekly methotrexate and the lesions healed up after 6 weeks.

Discussion

The most common initial condition in Wolf's isotopic response is herpes zoster. Varicella and other viral infections are less frequently reported. The common subsequent conditions are many like granuloma annulare, sarcoid,

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Figure 1 Multiple hyperpigmented plaques all over body with limpet like scales.



Figure 3 Similar plaques over both legs



Figure 2 Plaques over penis, pubic area, thighs and hands.

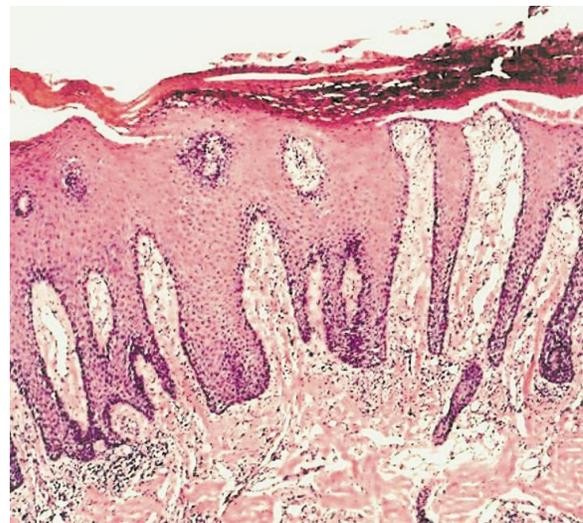


Figure 4 Histopathological examination in H&E stain in 100x showing typical features of psoriasis.

metastasis, lymphoma, leukemia cutis, pseudolymphoma, tinea, angiosarcoma, Bowen's disease and tuberculoid and vasculitic granuloma. Furunculosis, lichen planus, and reactive perforating collagenosis, lichen sclerosus, solar degeneration and acneiform eruptions are less common. Discoid lupus erythematosus³ and morphea⁴ have been added to the list. For stamping the case as isotopic phenomenon, the initial lesions should have healed completely.⁵ Recently a few diseases like generalized granuloma annulare,⁶ secondary syphilis⁷ and reactive perforating collagenosis⁸ have been reported to arise on healed lesions of varicella. The time period between the initial and subsequent lesions is variable.

In our patient the psoriatic lesions appeared on the spots and scars of varicella within one month of the initial lesion. The lesions were rupioid in morphology. We kept rupioid psoriasis, rupioid syphilis and Reiter's disease as differentials. As palms and soles were unaffected we excluded Reiter's disease. VDRL was non-reactive. Histology confirmed the diagnosis as psoriasis. The disease responded to weekly methotrexate and the lesions cleared after 6 weeks.

Many theories like viral, immunological, neural, vascular and locus minoris resistentiae (a site of lessened resistance) have been proposed to explain the isotopic response. Isolation of herpes virus has been shown in some studies to support the viral hypothesis.¹⁰ It is also considered that neuropeptides like vasoactive intestinal peptide, neuropeptide Y, calcitonin-gene-related peptide, and substance P influence the immune system.¹¹ It may be concluded that herpes virus infection disturbs the local immunological pathway which subsequently leads to occurrence of the second disease.

We report this case as this is the first case of isotopic response where rupioid psoriasis appeared on healed lesions of varicella.

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