

DOES PITYRIASIS ROSEA KOEBNERISE?

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Abstract

The Koebner phenomenon or isomorphic phenomenon is described in dermatology texts as the production of lesions of the original disease, in clinically uninvolved skin, following trauma. The lesions are located at the site of trauma and evidence of a traumatic causation is the linear arrangement of some of the lesions, such as in the case of lichen planus. Other disorders known to exhibit the Koebner phenomenon include psoriasis and vitiligo. A number of other diseases are associated with the Koebner phenomenon. Pathergy is a phenomenon of pustule production following trauma, which occurs in certain disorders such as Pyoderma gangrenosum and Behçet's disease. In some disorders such as impetigo and verruca vulgaris, inoculation may give the appearance of the Koebner phenomenon.

A case of pityriasis rosea and Koebner phenomenon at the site of routine blood assay is described in this work. This author has not thus far encountered any description of the Koebner reaction in relation to pityriasis rosea in the literature, but, perhaps, with this report, other physicians will be more open to this possibility and actually uncover similar cases.

Key words: pityriasis rosea; Koebner phenomenon; skin disease

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Introduction

The Koebner phenomenon was first described in 1872 by the renowned German dermatologist, Heinrich Koebner [1]. He described it in cases of psoriasis that he had studied and considered it an irritant effect. The Koebner phenomenon or reaction has since been consistently described with vitiligo and lichen planus. It has also been cited in association with a number of other diseases such as lichen sclerosus, sarcoidosis and pityriasis rubra pilaris [1,2]. There appear to be no reports in the literature of this phenomenon being observed in patients with pityriasis rosea.

Case Report (Fig. 1-3)

A 35 year old female presented at our outpatient clinic with an eruption that had developed 2-3 weeks before presentation. It had been preceded by a single lesion on her right flank. The rash was asymptomatic, except for a mild sensation of itch when she thought of the lesions. It had spread gradually to involve her trunk. The patient is a pharmacy assistant by profession.

Her past medical history was negative for medication and for a preceding febrile illness. She had had an appendectomy at 5 years of age and a benign breast nodule at 26 years of age. She had no history of contraceptive use.

On examination, a rash comprised of small, well-defined, erythematous, slightly squamous plaques was seen on the anterior and posterior trunk. Similar lesions were noted (one

each) in the cubital fossae. The limbs as well as palms and soles were uninvolved. No regional adenopathy was noted. There were no significant findings on systemic examination. Upon further questioning, she claimed these cubital lesions appeared about 1 week after needling for routine, work-related, blood testing. The results were normal and she tested VDRL negative.

Since the clinical diagnosis was obvious and the patient also unwilling to consent, no biopsy was taken.

She was placed on observation and asked to return 3 weeks later. At this follow-up visit, the lesions were almost completely absent. She remained asymptomatic and was therefore discharged.

Discussion

Pityriasis rosea is a common, benign, self-limiting dermatosis that affects the trunk and proximal extremities [3]. No treatment is usually required. A viral aetiology has been suggested. The differential diagnosis includes secondary syphilis (herald patch present in our patient), tinea corporis (this patient had squames on the inside of the lesion margin), numular dermatitis (patient's rashes were not round, no vesicles were present), guttate psoriasis (squames were fine rather than coarse in this patient) and pityriasis lichenoides chronica (lesions were not predominantly on extremities in this patient). The mechanism of the production of the Koebner or isomorphic phenomenon is unknown.



Figure 1. Pityriasis Rosea-Koebner. Left



Figure 2. Pityriasis Rosea-Koebner. Right



Figure 3. Pityriasis Rosea-Herald Patch

It has been induced most frequently in patients with psoriasis [2], in hopes of better understanding the pathogenesis of this disorder. Indeed, Heinrich Köbner's original experiments were on patients with psoriasis [1]. Time lag for koebnerisation in psoriasis was found to be about 10-20 days, but, in general, for the Koebner phenomenon, it was estimated to vary from 3 days to years [2]. The patient under discussion had a time lag of about 1 week from trauma to onset of koebnerisation.

In psoriasis, sensory neuropeptides may contribute to the development of koebnerisation, thus indicating a neural theory for the causation of this phenomenon [4]. Furthermore upregulation of, as well as increase in, Nerve Growth Factor (NGF) has been noted in psoriatic plaques by some authors [5]. This could, nonetheless, be a conclusion that may not be subject to generalisation, as, in contrast to psoriasis, vitiligo appears to show a higher frequency of the Koebner phenomenon in nonsegmental (47.19%), vs. segmental vitiligo (24.00%), which is hypothesised by some as having a neural aetiology [6]. Pharmacologic inhibition of epidermal growth factor receptor (EGFR) by EGFR inhibitors leading to enhanced and protracted inflammation in the skin is also a putative mechanism of production of the Koebner effect [7].

No mechanism is suggested here for the reaction observed in this patient.

Reverse koebnerisation may also follow injury, although the mechanisms of production may differ [2].

The isotopic phenomenon is the occurrence of a new lesion in the area of skin where another unrelated dermatosis has healed [8]. It is fundamentally different from the isomorphic phenomenon. This is also known as the Wolf's isotopic response [9], although it may have been described 30 years earlier by other authors [8], as Wolf himself acknowledged [9]. Aside from psoriasis, lichen planus and vitiligo, the Koebner phenomenon has been noted in Kaposi sarcoma, Kyrle disease, Darier disease and lichen sclerosis et atrophicus [10].

A case of pityriasis rosea presenting with posttraumatic lesions that suggest the Koebner phenomenon is presented. Although koebnerisation has been associated with a wide variety of disorders [1,2], to the best of our knowledge, it has not been reported in association with pityriasis rosea.

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