

LETTER TO THE EDITOR

Localized guttate psoriasis in a patient with erythema migrans

Editor

More than 140 years ago, Heinrich Köbner described an isomorphic phenomenon in a patient with psoriasis.¹ This so-called Köbner phenomenon is one of the most well-known entities in dermatology and has been well documented in psoriasis, vitiligo and lichen planus as well as in variety of other inflammatory skin diseases.²

A 53-year-old woman visited her family doctor with a red macule on her right buttock that had been present for some weeks. Except for some mild burning sensation she had no complaints. No therapy was started and after 1 week the macule had not significantly increased in size. Uncertain about the possible diagnosis he sent a teledermatology consultation to our outpatient clinic. Based on the photographs sent, it was difficult to come to a definitive conclusion (Fig. 1) and the doctor was asked to refer the patient for a live consultation. The same doctor (KdR) who evaluated the teledermatology consultation saw her 2 weeks later. She did not recall that ticks or other insects had bitten her. After the redness had occurred and had grown in size over the previous week, she also noticed the appearance of small scaling psoriasis-like eruptions (Fig. 2). Her medical history revealed migraine and psoriasis. She occasionally had psoriasis plaques on her head and elbows, which she treated with calcipotriol cream. The last several years she had been symptom free. Furthermore, she was on medication for hypertension (metoprolol) for several years. Both her father and sister were also afflicted with psoriasis.



Figure 1 Teledermatology photograph (taken by the family doctor).



Figure 2 Photograph taken two weeks later.

A biopsy was taken from a psoriatic lesion in the centre of the red macule. Histology revealed parakeratosis and superficial perivascular – predominantly lymphocytic – infiltrate with some vacuolisation suggestive for eczema. PCR investigation was positive for *Borrelia*. For each PCR, two sets of primers and one probe were used both specific for *Borrelia burgdorferi* DNA (GenBank AB236667 (GI:109715761) *Borrelia afzelii* flaB gene for flagellin B protein, partial cds. Forward primer tmBorr-fw 167...147 bp; reverse primer tmBorr-rv 80...109 bp; probe tmBorr-fam 144...111 bp).³ Blood samples were also low positive (8,47 E/mL) for *Borrelia burgdorferi* IgG antibodies (LIAISON *Borrelia* IgG, cut-off value 5,5) indicating a possible early infection. Upon the clinical diagnosis erythema migrans she was treated with doxycycline 100 mg b.i.d. for ten consecutive days according to the Dutch Guideline on Lyme-Borreliosis. When she returned to our clinic for suture removal 10 days later, the redness had dissolved and the psoriatic plaques starting to diminish. The residual eruptions were treated with calcipotriol cream and resolved within several weeks. To date, she has had no recurrence of both erythema migrans and psoriasis.

The positive effect of doxycycline on both erythema migrans and the psoriasis lesions confirms our conviction that there is a direct correlation between the infection and the occurrence of

this localized presentation of psoriasis. This report confirms the earlier observations by Kahofer and Aberer on a patient with a similar combination of an infection with *Borrelia* as a Köbner phenomenon in psoriasis.⁴ To date, the exact mechanism, however, remains unclear. Different pathomechanisms including immunologic, vascular, dermo-epidermal interaction, enzymatic, neural, genetic, hormonal factors and the role of inhibitory and growth factors have been implicated in the pathogenesis of this isomorphic response.⁵ In recent years, several investigators demonstrated that deletion of late cornified envelope genes (LCE3B and LCE3C) is a strong risk and widely replicable factor for psoriasis.^{6,7} Bergboer *et al.* recently demonstrated that there is no association between deletion of LCE3B and LCE3C and the Koebner phenomenon.⁸

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