Coexistence of Palmoplantar Psoriasis, Acral Vitiligo and Autoimmune Hypothyroidism

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This article is available from: http://www.jtad.org/2013/1/jtad1371c4.pdf

Key Words: psoriasis, vitiligo, hypothyroidism.

Introduction
Psoriasis and vitiligo are two different cutaneous diseases with unknown etiology. However, autoimmunity, environmental and genetic causes are blamed in etiopathogenesis of both diseases [1, 2]. A literature search about the concurrence of these diseases has demonstrated that psoriasis may occur with vitiligo coincidentally or based on a common pathogenic relationship and it may be strictly confined to the vitiligo-affected skin or it may occur independently of vitiligo. Furthermore, several autoimmune disorders such as thyroid disease, alopecia areata, bullous pemphigoid, lichen planus have been reported to occur more often in patients with both diseases [3, 4, 5].

Case Report
A 66-year-old female was referred to our clinic with 12-year history of erythemasquamous plaques that were localized to palmoplantar areas (Figure 1a). She also had 25-year history of small vitiligo patches on dorsum of her hands, feet and chin (Figure 1b). She had been recently diagnosed with autoimmune hypothyroidism and had been trea-

Figure 1. a) Erythemasquamous plaques that were localized to palmoplantar areas; b) Vitiligo patches on dorsum of her hands, erythemasquamous lesions on the knuckles (pigmented areas).
Discussion

The pathogenic mechanism underlying the coexistence of vitiligo and psoriasis is still unknown. Some authors consider this coexistence to be a simple coincidence, but others have suggested several theories as a common pathogenic relationship between vitiligo and psoriasis. There have been previously several reports indicating this association in different ways. Strict anatomical coexistence of psoriasis inside the vitiliginous patches has rarely been reported [1, 6, 7, 8]. These articles attempted to explain a common etiopathogenetic relationship: autoimmunity, Koebner phenomenon, cytokines or decreased melanocytes and melanin as predisposing factors for each disease [1, 7, 9]. More recently, Prignano et al. suggested that both diseases may be immunemediated with a genetic link [10]. However, Zhu et al. found that psoriasis and vitiligo share a common genetic locus in the MHC [8]. The association with other autoimmune diseases was also reported [9]. Coexistence with autoimmune polyglandular syndrome (APS) is quite rare. There is only one case report in which strict co-localization of psoriatic lesions in vitiliginous plaques is associated with APS consisting of autoimmune hypothyroidism and pernicious anemia has been assessed [11]. In this report, Koebnerization has been implicated as a pathogenetic link between two diseases and cytokines in vitiliginous areas have been blamed [11]. However, the incidence of an associated autoimmune disease remains controversial [9].

In our case, psoriatic lesions were confined to pigmented areas and vitiliginous plaques were intact despite the acral predilection of both vitiligo and psoriasis. The onset and course of each disease including hypothyroidism were chronologically independent from each other. Some studies showed an elevated tissue level of epidermal cytokines (IFN-\(\gamma\), TNF-\(\alpha\)) in lesional and perilesional skin of patients with vitiligo and psoriasis [1, 12]. The interreactions between T lymphocytes, keratinocytes, melanocytes and cytokines are thought to play a role in the pathogenesis of psoriasis and vitiligo [1]. Referring to this, the acral predilection of both vitiligo and psoriasis in our patient can be explained that increasing level of cytokines in the perilesional vitiligo-affected skin may have triggered the development of psoriatic lesions in genetically susceptible patient. We believe that the concurrence of vitiligo and psoriasis with autoimmune hypothyroiditis is not a coincidence, but further studies are necessary for clarification of the underlying pathogenesis.

References


