Coexistence of vitiligo and psoriasis: three case reports

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Vitiligo and psoriasis are both common diseases. However, coexistence of these two diseases is rare. The pathogenesis of the coexistence of vitiligo and psoriasis is still unknown. Herein, we report three children (11-year-old, 8-year-old, and 7-year-old females) who attended our Department of Dermatology with coexisting vitiligo and psoriasis.

Key words: vitiligo, psoriasis, coexistence.

Psoriasis and vitiligo are two common dermatoses. The worldwide occurrence of psoriasis in the general population is about 2–3% and of vitiligo is 0.5–1%. Coexistence of these diseases in the same patient is uncommon. Strict anatomical coincidental presentation of both diseases is extremely rare[1-3]. The pathogenesis of the coexistence of vitiligo and psoriasis is still unknown. Several theories have been postulated to explain a common pathogenic relationship: autoimmunity, Koebner phenomenon, decreased melanocytes, and genetic and environmental factors[1-5].

Herein, we report three children (11-year-old, 8-year-old, and 7-year-old females) who attended our Department of Dermatology with coexisting vitiligo and psoriasis.

Figure 1. Multiple depigmented lesions, multiple erythematous papules and plaques with silvery white scales over the depigmented lesions and normal skin areas on the front of the body.

Case Reports

Case 1

An 11-year-old female patient noticed depigmented areas for the past three years continuously increasing in size and number. For the last six months, red papules and plaques had developed within these areas and the other skin areas. The patient presented to our department for these red lesions. On examination, multiple depigmented lesions, multiple erythematous papules and plaques with silvery white scales over the depigmented lesions and normal skin areas were observed (Figs. 1, 2). Skin biopsy was done from a lesion with colocalized disease. Skin biopsy revealed acanthosis, parakeratosis and Munro's microabscesses. An absence of melanocytes in the basal layer of the epidermis was seen on special staining. The histological findings confirmed the coexistence of vitiligo and psoriasis (Fig. 3). There was no family history concerning vitiligo and psoriasis. Blood count and serum chemistry were within normal limits. Thyroid peroxidase antibodies (TPO-Ab) were detected as positive.

Case 2

An 8-year-old female patient noticed depigmented lesions for the past two years. She used several topical therapies but her lesions increased in number. The patient

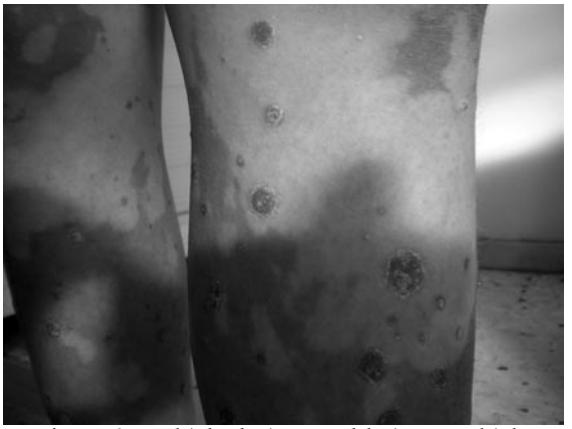

Figure 2. Multiple depigmented lesions, multiple erythematous papules and plaques with silvery white scales over the depigmented lesions and normal skin areas on both legs of the patient.

noticed red, scaly elevated skin lesions for the past one year. Cutaneous examination revealed depigmented lesions over the extremities and mons pubis, and erythematous papules and plaques with silvery white scales over the legs. Skin biopsy was done from the lesions. The histological findings confirmed vitiligo and psoriasis. There was no family history. Blood count and serum chemistry were within normal limits. Autoantibodies were not detected. The patient's vitiligo plaques were treated with PUVA therapy, and they recovered to normal skin.

Case 3

A 7-year-old female patient noticed depigmented lesions for the past year. The lesions started over the lips, hands and arms, and then increased in size and number. For the past four months, red and scaly papules and plaques had developed. Cutaneous examination revealed depigmented lesions over the extremities and abdomen. There were also guttate papules over the abdominal area and on the depigmented lesions. Skin biopsy was done from the lesions. The histological findings confirmed vitiligo and psoriasis. There was no family history. Blood count was within normal limits.

Discussion

Both vitiligo and psoriasis are common dermatoses in the general population. As a result, the coexistence of either can be expected when considering their incidence[2,4,6]. The pathogenesis of the coexistence of vitiligo and psoriasis is still unknown. Several theories have been studied to explain a common pathogenic relationship, such as autoimmunity, Koebner phenomenon, a possible involvement of neuropeptides, or decreased melanocytes and melanin for each disease[1-5]. However, some authors have reported no increased incidence of the coexistence of the two diseases. Sandhu et al.[3] reported a retrospective study of 4,700 patients with psoriasis. Among the 4,700 patients with psoriasis, 38 (0.8%) patients had associated vitiligo. They thus reported that there was no increased incidence of the coexistence of the two diseases, and they regarded their coexistence as a simple coincidence. In Italy, there was a retrospective study of 712 patients with vitiligo. From the 712 vitiligo patients, 21 (3%) had associated psoriasis[7].

Several studies have found an elevated tissue level of epidermal cytokines as tumor necrosis factor-α in lesional and perilesional skin of patients with vitiligo and psoriasis[8,9]. The increase in expression of the cytokines is associated with T-cell-mediated immune diseases. The interactions between T lymphocytes, keratinocytes or melanocytes are thought to play a role in the pathogenesis of psoriasis and vitiligo[4]. A typical characteristic in psoriasis and vitiligo is the eruption of skin lesions after local irritation (Koebner phenomenon). Its pathogenetic mechanism has been attributed to alterations in the local cytokine milieu in psoriasis[4] or transepidermal

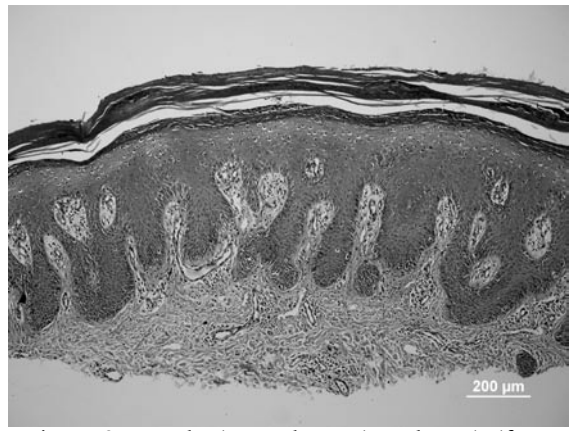

Figure 3. Acanthosis, parakeratosis and psoriasiform hyperplasia of the rete ridges, and Munro's microabscesses (H&E x10).

elimination of melanocytes following minor trauma in vitiligo[10].

Lichen planus, thyroid disease, pernicious anemia, alopecia areata, and diabetes mellitus are the associated diseases in the patients who suffer from coexisting vitiligo and psoriasis[1]. Some authors have reported that 33% of the patients with vitiligo and psoriasis had an associated disease, but other authors have recently found an increased number of associated autoimmune disorders[3]. Our 11-year-old case was found to be TPO-Ab-positive.

To the best of our knowledge, there are a limited number of cases of the coexistence of psoriasis and vitiligo in the pediatric age group in the literature. Dhar et al.[11] reported a colocalization of vitiligo and psoriasis in a 9-year-old boy. We report three cases here, all of whom were in the pediatric age group. We suggest that psoriasis and vitiligo could have a common pathogenesis. Especially Koebner phenomenon could be a factor for coexisting psoriasis and vitiligo. We suggest that physicians should be more aware of the coexistence of psoriasis and vitiligo in the pediatric age group.

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