

Concurrent Psoriasis Vulgaris and Vitiligo in a 54-Year-Old Male Patient

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Abstract

Psoriasis vulgaris and vitiligo are chronic autoimmune skin conditions that affect all races and age groups. Psoriasis presents as erythematous plaques with silvery scales, while vitiligo manifests as symmetric depigmented macules. Their co-occurrence, although documented since 1955, remains relatively rare and underreported in Asian populations. We report the case of a 54-year-old Filipino male, with no known comorbidities who presented with both psoriasis and vitiligo. Skin punch biopsies confirmed the diagnoses of both conditions. During treatment, new vitiliginous lesions appeared over psoriatic plaques, suggesting Koebnerization. We review the current literature to explore possible immunologic and genetic overlaps and provide insights to their treatment.

Keywords: Autoimmune, medical dermatology, psoriasis vulgaris, vitiligo

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INTRODUCTION

Psoriasis vulgaris affects about 0.1%–3% of the population and typically presents as erythematous scaly plaques with silvery white scales.^[1,2] Vitiligo, affecting about 0.55%, is characterized by symmetric depigmented patches.^[1,3] Emerging evidence highlights shared genetic and immunological mechanisms.

This report presents the case of a 54-year-old male with concurrent psoriasis and vitiligo and reviews published reports to offer a broader perspective, highlighting their clinical overlap, diagnostic challenges and potential immune interactions. Understanding this association is crucial for optimal management and further research into their shared pathogenesis and therapeutic approaches.

CASE REPORT

A 54-year-old Filipino male presented with an 8-year history of few depigmented macules evolving into multiple confluent depigmented macules and patches on the face, trunk, and extremities. The patient sought consult at our institution and was managed as a case of vitiligo. Treatment with clobetasol propionate cream twice a day for 2 weeks was initiated; however, he was then subsequently lost to follow up.

Two months before consult, the patient developed few pruritic erythematous papules with silvery-white scales on the scalp, with gradual involvement of the nasolabial area and the trunk. Persistence and progression of these new

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lesions prompted consult. The patient's personal, social, and family history was unremarkable.

On physical examination of the skin, there were multiple, well-defined, depigmented macules, and patches of vitiligo on the face, scalp, distal extremities, and trunk. Poliosis was also present on the scalp. These lesions were admixed with erythematous thick silvery-scaled plaques of psoriasis vulgaris on the nasolabial area, scalp, trunk, and extremities. Notably, there were both psoriatic and vitiginous lesions on the same area of the skin [Figure 1a].

Skin punch biopsy of the depigmented lesion was consistent with vitiligo revealing an epidermis with decreased melanocytes at the basement membrane zone. Melan-A staining was done, which was negative,

ruling out pityriasis versicolor and postinflammatory hypopigmentation [Figure 1b].

Skin punch biopsy on areas with erythematous plaques was likewise consistent for psoriasis vulgaris. It showed confluent parakeratosis of the stratum corneum with collection of neutrophils. Psoriasiform hyperplasia with thinning of the papillary plates, and hypogranulosis of the epidermis with spongiform pustules of Kogoj were also seen [Figure 1c].

The first-line treatment for mild psoriasis, as seen in our patient, includes bland emollients, topical corticosteroids, Vitamin D3 analogs, and topical calcineurin inhibitors. In cases of localized vitiligo, treatment may involve topical medications such as corticosteroids and calcineurin



Figure 1: (a) Physical examination findings of a 54-year-old male seen as multiple, well-defined, irregularly shaped papules and plaques with silvery-white scales, along with multiple depigmented macules and patches on the nasolabial area, scalp, and extremities, with sparse lesions on the trunk. (b) Histopathologic findings of depigmented lesions (H&E and Melan-A) (c) Histopathologic findings of erythematous plaques (H&E)

inhibitors, along with targeted phototherapy using an Excimer laser.^[1]

During the course of the treatment, the patient's psoriatic lesions were adequately managed with only topical corticosteroids and emollients. However, it was interesting to note that in some areas previously affected by psoriasis, new, well-defined depigmented macules appeared in the surrounding skin. While some of these could be attributed to the classic Woronoff ring seen in treated psoriatic lesions, they might also indicate the emergence of new vitiliginous lesions, suggesting the possibility of Koebnerization [Figure 2] This prompted further treatment with targeted phototherapy using excimer laser.

The patient has undergone ten sessions of targeted phototherapy, leading to visible improvements seen as the areas of repigmentation. However, a notable challenge during the treatment was the simultaneous appearance of new vitiliginous lesions alongside emerging psoriatic lesions.

DISCUSSION

Psoriasis and vitiligo are the well-known autoimmune dermatologic conditions whose coexistence has been increasingly reported.^[1-3] While some suggest this overlap may be coincidental due to their high individual prevalence, emerging epidemiologic data indicate a significant association.^[4] A meta-analysis reported a twofold increase in the risk of vitiligo among patients with psoriasis and a threefold increase in the risk of psoriasis among individuals with vitiligo.^[5]

A 2024 study found that 69.4% developed vitiligo before psoriasis, suggesting that vitiligo may create an immune

environment conducive to psoriasis development.^[5] In our patient, vitiligo preceded psoriasis by several years. Some lesions were colocalized, and new vitiliginous patches developed in previously psoriatic areas, possibly due to Koebnerization.^[6,7]

Several theories have been proposed to explain this concurrence. A study from China stated that both share genetic markers such as single-nucleotide polymorphisms (SNPs) in key HLA genes.^[8,9] However, a Mendelian randomization study involving European populations did not support a bidirectional genetic causal relationship.^[5] These findings highlight the need for reports with a more diverse population.

Both diseases also said to share several immunological signaling pathways, particularly Th1 and Th17 pathways, along with dysfunction in regulatory T-cells (Tregs).^[5] Elevated levels of TNF- α have been observed in both vitiliginous and psoriatic lesions.^[7]

The Koebner phenomenon may also contribute, as both conditions are known to develop at the sites of skin trauma.^[1,6,7] Vitiligo lesions may create a cytokine-rich environment that predisposes affected areas to psoriasis development.^[10] Conversely, that psoriatic lesions may induce vitiligo through koebnerization by detachment of epidermal melanocytes induced by trauma.^[6] In our patient, new vitiliginous patches developed in areas previously affected by psoriatic plaques.

Management of coexisting psoriasis and vitiligo requires a tailored approach. For mild psoriasis, first-line treatment includes topical corticosteroids, vitamin D3 analogs, and emollients.^[1] In localized vitiligo, topical corticosteroids and calcineurin inhibitors are standard, along with targeted phototherapy using excimer laser.^[1,5]

In this case, emollients and corticosteroids were chosen for their anti-inflammatory effects on both Th1 and Th17 pathways. Targeted phototherapy was added after vitiligo progression was noted during psoriatic improvement. This supports the idea that ongoing immune dysregulation persists even when one condition is clinically controlled.^[5] Table 1 summarizes the published cases of concurrent psoriasis and vitiligo, including patient demographics, disease onset, proposed mechanisms, and treatments. Treatment approaches varied but commonly involved topical corticosteroids and phototherapy.



Figure 2: Physical examination findings of a 54-year-old male. Multiple depigmented macules were noted on areas surrounding psoriatic lesions

Table 1: Summary of published cases on concurrent psoriasis and vitiligo

Author(s)/year	Patient demographics	Sequence of onset	Proposed mechanism	Treatment approach
Belmourida <i>et al.</i> ^[6]	62-year-old male, Morocco	Psoriasis before vitiligo	Koebner phenomenon, common inflammatory pathways and genetic susceptibility	Topical corticosteroids
Park <i>et al.</i> ^[7] Li <i>et al.</i> ^[5]	30-year-old male, Korea Multiple, China	Vitiligo before psoriasis Mostly vitiligo first (69%)	Increased TNF- α Shared Th1/Th17 pathways, defective Treg	Skin grafting, PUVA Unspecified conventional therapy
This case	54-year-old male, Philippines	Vitiligo before psoriasis	Koebner phenomenon; shared immune triggers	Topical corticosteroids + targeted phototherapy

TNF- α : Tumor necrosis factor alpha, PUVA: Psoralen + Ultraviolet A, Th1/Th17: T helper 1/ T helper 17

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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