

Psoriasis and Vitiligo Co-Occurrence: When Inflammatory Disease Meets Autoimmune Pathology

Bochra Bennour^{1*}, Sophia Abdel-Ilah¹, O. Hocar¹, S. Amal¹, M. Aboudourib¹

¹Dermatology Department, Mohammed VI University Hospital, Marrakesh, Morocco

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*Corresponding author: Bochra Bennour

Dermatology Department, Mohammed VI University Hospital, Marrakesh, Morocco

Abstract

Case Report

Vitiligo and psoriasis are common inflammatory skin diseases, although, their association in the same patient is rare. We report the cases of two diabetic women (59 and 61-year-old). The first patient had extensive vitiligo evolving since infancy; she consulted for a moderate pruritus in the vitiligo lesions followed by erythematous lesions at the same sites. The second patient consulted for the same lesions but in this case psoriasis appeared first followed by achromic lesions in the same sites and beyond. A medical atopic history was reported in the two cases. Few publications reported the association of vitiligo-psoriasis in the literature. The majority of case reports illustrated patients diagnosed with vitiligo who developed psoriasis later. Current data on the pathophysiology of these two conditions are still unclear; however, the two diseases share a common locus in the major histocompatibility complex. Dendritic cells may also participate in the genesis of both skin diseases via autoimmune inflammation mediated by the Th1 and Th17 pathways. In addition, pro-inflammatory cytokines IFN α has been recognised as a potential inducer of both psoriasis and vitiligo. The presence of atopic medical history in our cases can be explained by the high activity of IL-2 which is raised in psoriasis, atopic dermatitis and vitiligo, furthermore, locus PSORS4 and atopic dermatitis locus ATOD2 are co-localized on chromosome 1q21, it leads to suggest that, probably, a vitiligo locus overlaps on the same chromosome 1q21. The role of psychological stress and Koebner's phenomenon is often emphasized in the genesis of the two diseases.

Keywords: Vitiligo; psoriasis; auto-immunity; inflammatory disease; Koebner.

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INTRODUCTION

Vitiligo and psoriasis are very common inflammatory skin diseases, although, their association in the same patient is rare. The pathophysiological mechanisms of their co-occurrence remain unclear.

CASE REPORT

We report the cases of two diabetic women who had 59 and 61-year-old. The first patient had an extensive vitiligo evolving since infancy never been treated; she consulted for a moderate pruritus in the vitiligo lesions evolving since two years, followed by the appearance of erythematous lesions at the same sites. The second patient consulted for the same lesions but in this case psoriasis appeared first followed by achromic lesions in the same sites and beyond. No medical family history of psoriasis or vitiligo was reported in the two cases but a familiar atopic history

was reported in the first case and a personal medical atopic history was found in the second case.

Clinical examination revealed in the two cases chalky white achromic macules in the stronghold areas, symmetrical and very well limited, surmounted by erythematous plaques, on Wood's lamp, the lesions were blue- white.

The erythematous lesions were present only on achromic lesions in the first case but not in the second one. Dermoscopy of the erythematous lesions showed a light red background, a regular pattern, glomerular vessels evenly distributed throughout the lesion and white scales.

Biologically, no perturbation in the thyroid check-up was revealed.

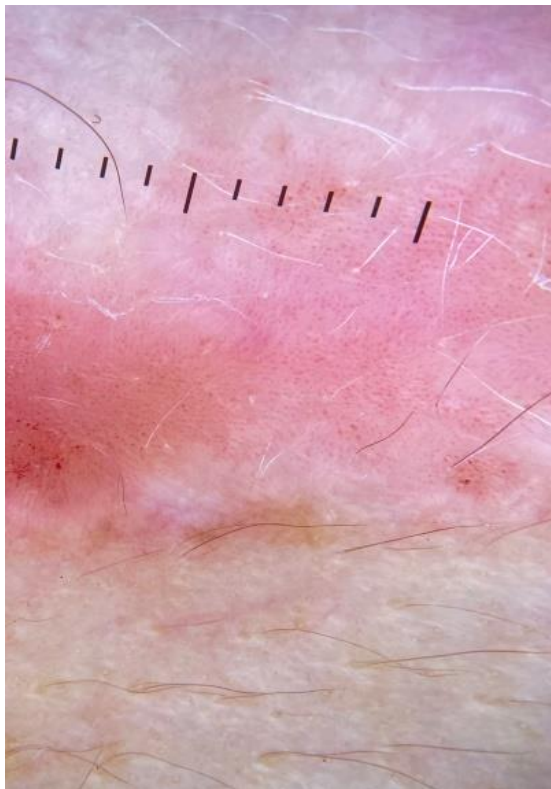
The association of psoriasis and vitiligo was retained on the basis of clinical and dermoscopic arguments and the therapeutic decision taken was to put both of them on dermocorticoids and phototherapy ultraviolet B.



Patient 1: Psoriasis on vitiligo lesions (knee)



Patient 1: Psoriasis on vitiligo lesions (back)



Patient 1: Dermoscopy findings in erythematous squamous lesions



Patient 2: Coexisting of psoriasis and vitiligo (Knee)

DISCUSSION

Vitiligo is a common autoimmune inflammatory disease characterised by selective loss of melanocytes. Described diseases associated with

vitiligo include especially auto-immune diseases such as thyroïditis, Biermer anemia and Addison's disease.

Psoriasis is a chronic, inflammatory and proliferative condition, in which genetic and environmental influences play a key role. Described diseases associated with psoriasis include Crohn's disease, ankylosing spondylitis, bullous pemphigoid and rarely vitiligo.

Few publications reported the association of vitiligo-psoriasis in the literature. The majority of case reports illustrated patients diagnosed with vitiligo who developed psoriasis later, Hsi Yen [1] reported that psoriatic patients were 2.29 times more likely to develop vitiligo, while patients with vitiligo were 3.43 times more likely to develop psoriasis lesions. Sharquie's study [2] has reinforced this hypothesis, it has shown that frequency of psoriasis among vitiligo patients was 6% while the frequency of vitiligo among psoriasis was 2% only.

Current data on the pathophysiology of these two conditions are still unclear; however, genetic predisposition is always involved for both diseases. The two diseases share a common locus in the major histocompatibility complex [2, 3]. Familial vitiligo runs in 10-30% of cases and a susceptibility gene is probably located on the short arm of the chromosome 1 [4], also, in psoriasis, the PSORS4 region maps to chromosome 1 but on its long arm 1q21 [5].

Dendritic cells may also participate in the genesis of both skin diseases via autoimmune inflammation mediated by the Th1 and Th17 pathways. In addition, pro-inflammatory cytokines IFN α has been recognised as a potential inducer of both psoriasis and vitiligo [1, 2, 6]. The implication of the IFN α in the genesis of psoriasis and vitiligo simultaneously is reinforced in the Seçkin's case report of a 10 year-old girl treated with IFN-alfa and progressively developed both vitiligo and psoriasis [7]

The presence of atopic medical history in our cases can be explained by the high activity of IL-2 which is raised in psoriasis, atopic dermatitis and vitiligo [8], furthermore, locus PSORS4 previously cited and atopic dermatitis locus (ATOD2) are co-localized on chromosome 1q21 [9], it leads to suggest that, probably, a vitiligo locus overlaps on the same chromosome 1q21. Further genetic studies should be carried out in this sense.

The role of anxiety and psychological stress is often emphasized in the genesis of the two diseases. Koebner's phenomenon has been implicated in the physiopathology of this association, as in the case of our first patient, in whom psoriasiform plaques

appeared on the scratch lesions of vitiligo. Psoriasis may be strictly confined to hypochromic macules or may occur elsewhere [2, 6].

Treatment with phototherapy ultraviolet B has been approved to improve psoriasis and vitiligo simultaneously in the same patient. The Janus Kinase inhibitors tofacitinib have been used in this combination with promising results [3].

CONCLUSION

The association of psoriasis and vitiligo must be brought up in front of erythematous-squamous lesions on achromic background, when in doubt, biopsy to dismiss postinflammatory hypopigmentation.

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