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Colocalized Vitiligo and Psoriasis

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Introduction

Psoriasis is a chronic inflammatory cutaneous disorder characterized by abnormal epidermal growth and differentiation, presenting as red, scaly patches, papules, and plaques. This common disease affects approximately 2% of the population [1]. Vitiligo is a depigmenting disorder characterized by progressive epidermal melanocyte destruction. This autoimmune disease affects approximately 0.3% to 0.5% of the population and is induced by multiple genetic and environmental factors. We present a rare case of a concomitant and colocalized presentation of vitiligo and psoriasis [2].

Observation

A 62-year-old male with a 10-year history of chronic plaque psoriasis was referred to the dermatology clinic for treatment. Approximately 30% of his body surface area was involved, and his Psoriasis Area and Severity Index (PASI) score was 10. He was receiving only topical therapies from his general practitioner (calcipotriol and betamethasone valerate). He reported current joint pain and morning stiffness and was noted to have psoriatic scalp, intergluteal, and nail involvement, clinical signs associated with joint involvement. Subsequent consultation with rheumatology revealed no active joints or joint swelling; his symptoms were attributed to mechanical problems rather than psoriatic arthritis. He had no metabolic syndrome or coronary pathology. On examination, he was also noted to have vitiligo, present for approximately 5 years. The vitiligo was not only coexistent but also colocalized in the same location as the psoriasis, particularly in the lower limbs (Figure 1, 2, 3).

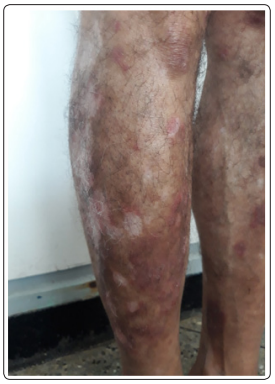

Figure 1

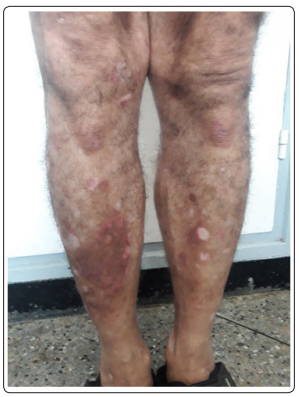

Figure 2

Figure (1, 2) : psoriasis and vitiligo colocalized

The patient consented to biopsy, which showed classic signs of psoriasis, including acanthosis, elongation of the rete ridges, and hyperkeratosis with parakeratosis, as well as a superficial dermal inflammatory infiltrate and classic signe of vitiligo (Figure 4,5).

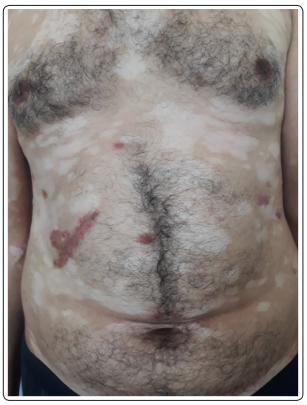

Figure 3: Vitiligo of the trunk associated with psoriasis with Koebner phenomenon

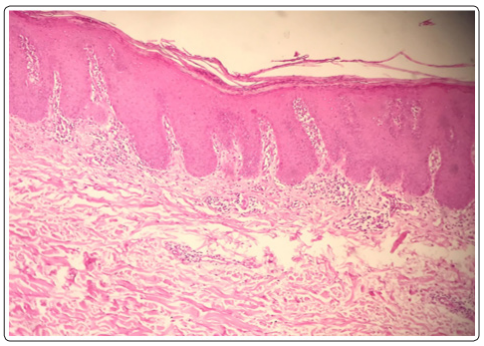

Figure 4: Biopsy objectified classic signs of psoriasis and vitiligo: Basal layer devoid of melanocytes, papillary dermis is edematous, seat of capillaries with a lymphocytic infiltrate with polymorphonuclear neutrophils)

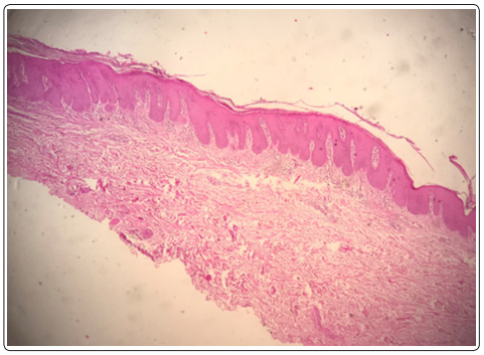

Figure 5: histological image showing signs of psoriasis and vitiligo

Discussion

Psoriasis and vitiligo are common dermatologic conditions with underlying autoimmune etiologies. There are few reports of concomitant and colocalized disease. Several theories have been proposed to explain this rare presentation [3]. The majority of case reports (63%) describe initial vitiligo followed by the development of psoriasis, unlike our patient, who presented with vitiligo following a longstanding history of psoriasis [3]. Several theories have been proposed to explain the cooccurrence of vitiligo and psoriasis. Reports of concomitant disease often describe underlying autoimmune conditions such as arthritis and thyroiditis, suggesting that these diseases may develop through similar autoimmune mechanisms. Our patient showed no evidence of underlying systemic autoimmune conditions. Interleukin (IL)-17A, produced by T-helper (Th)-17 cells, may be a common basis for an autoimmune origin of these diseases. Th-17 cells, along with Th-1, Th-2, and regulatory T-cells (Tregs), are made from naive CD4+ helper T cells. It has been hypothesized that the selection of naive CD4+ helper T cells toward Th-17 or Th-1 leads to autoimmune disease development and progression 7. A role for IL-17A in psoriasis has been established recently with findings from two phase 3 trials for the use of secukinumab, a fully human anti-IL-17A monoclonal antibody.

Furthermore, a recent immunohistochemical analysis revealed increased numbers of IL-17A-producing cells in colocalized psoriasis-vitiligo lesions [4]. The authors suggest that common inflammatory pathways and genetic susceptibility may explain this association of psoriasis, vitiligo, and cardiovascular risk factors. A shared genetic susceptibility may be explained by a locus in the major histocompatibility complex: psoriasis and vitiligo share single nucleotide polymorphisms of the classical human leukocyte antigen gene [5]. The Koebner phenomenon may be an alternative explanation for the concomitance and colocalization of psoriasis and vitiligo [6]. In psoriasis, the development of skin lesions following local irritation may be explained by altered levels of local cytokineswhile in vitiligo, this may be caused by the detachment of epidermal melanocytes induced by trauma [7-8]. This mechanism may help explain the colocalization of concomitant disease. Treatment of psoriasis can induce postinflammatory hypopigmentation and/or a Woronoff ring that may resemble vitiligo; the biopsy confirmed the diagnosis (Figure 4,5). Vitiligo has also been associated with abnormal melanocytic lesions, namely the halo nevus [9,10].

Conclusion

Clinicians should be aware of the possible concomitance and colocalization of psoriasis and vitiligo. Further research is needed to elucidate the common pathways leading to the concomitance and colocalization of these diseases.

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