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Case Report

A case of coexistence psoriasis and vitiligo: First case in Indonesia

Nita Damayanti Sulistianingrum, Fajar Waskito, Sunardi Radiono

Department of Dermatology and Venereology, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Dr. Sardjito General Hospital, Yogyakarta, Indonesia.

Abstract The coexistence of both psoriasis and vitiligo in the same location is rare to be found in one individual. We report a 44-year-old woman patient with a 2-year history of psoriasis and a 29-year history of vitiligo. Histopathological examination supports the diagnosis of vitiligo and psoriasis. These patients were given MTX therapy, topical steroids, and phototherapy of NBUVB at the initial dose of 200 M J/cm^2. At 12 weeks of follow-up therapy, there was a significant improvement in psoriasis but minimal improvement in vitiligo lesions.

Key words
Coexistence, psoriasis, vitiligo, colocalization.

Introduction

Psoriasis and vitiligo are two of the most frequent autoimmune skin diseases. The incidence rate of psoriasis is 2–3% and vitiligo affects about 0.5–1% of the world's population.[1-3] The coexistence of psoriasis and vitiligo in the same patient is rare. Sandhu *et al.*, in a retrospective study of 4,700 psoriasis patients with a data span of 14 years found that only 38 (0.8%) psoriasis patients also had vitiligo. In Indonesia, there is no case report found about this coexistence.[4-7]

Case report

A woman, 44 years old, came to our dermatology and venereology outpatient clinic complained of red scaly patches on almost all over her body. Two years before admission, red scaly patches appeared all over the body and were diagnosed with psoriasis vulgaris in a private hospital. She received topical and oral medication. The patient had never returned to check her condition because the red scaly patches had disappeared. Three days before admission, the complaint of red scaly patches reappeared initially on the stomach then spread to almost all over the body. On the day of admission, there was a complaint of red scaly patches. The patient also had many milky-white patches, especially on the legs, face, and chest. The white patches had been around for 29 years and were diagnosed as vitiligo but they had never been treated.

The patient's denied any history of thyroid disease and arthritis. In the family medical history, no similar disease either psoriasis or vitiligo was observed. On physical examination, multiple macules and patches of depigmentation especially on both the facial limbs and the chest were observed. Erythematous plaques with multiple silvery-white scales on top of the hairline of the face, neck, trunk, and extremities were found. Some psoriasis lesions were colocalized in depigmented lesions. Examination

Address for correspondence
Dr. Nita Damayanti, MD
Department of Dermatology and Venereology, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Dr. Sardjito General Hospital, Yogyakarta, Indonesia
Ph: 062-8232919995
Email: nitadamayanti91@gmail.com

Figure 1 Patient with colocalization of depigmentation and psoriasis of (A) the leg and (B) hairline.

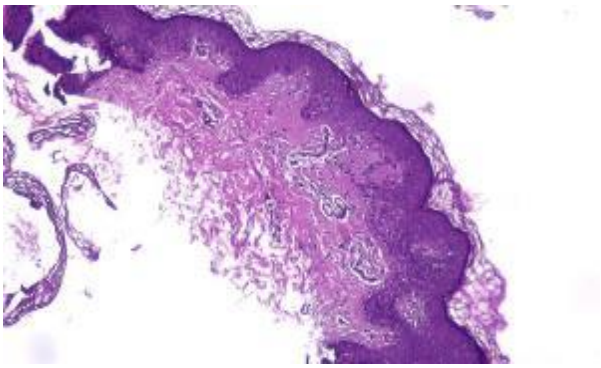

Figure 2 The histopathological of the lessions.

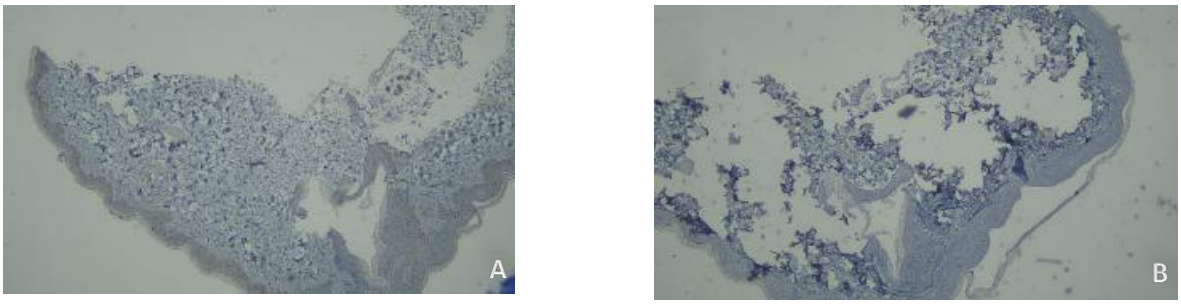

Figure 3 The depigmented lessions was S-100 protein negative (A) and Melan-A negative (B)

of fingernails revealed pitting nails and trachyonychia. Examination of the woods lamp on white patches on the legs and chest showed macula and depigmented patches. Histopathological examination was taken from 3 lesions, including depigmented lesions, red scaly lesions, and colocalized red lesions with depigmented lesions. In depigmented lesions, the result was epidermal orthokeratosis basket wave type, in some basal layers, there was no melanocyte cell and melanin pigment. In red scaly lesions, there was epidermal orthokeratosis of basket wave type, parakeratosis, hypogranulosis, acanthosis, lengthening of the rete ridges, and focal spongiosis. Suprapapillary thinning was found at the dermo-epidermal junction. The dermis papillae were swollen, dilated blood vessels with lymphocytes and neutrophils. From the results of immunohistochemical staining of Melan A and S 100, the presence of melanocytes was not found in the colocalized area. Histopathologically and immunohisto-chemically, it supported the diagnosis of psoriasis and vitiligo.

Complete blood examination, lipid profile, thyroid function, liver, and kidney function tests, were within normal limits. ANA antibody and rheumatoid factor were negative. On examination of blood vitamin D levels, the result was 19.7 ng/ml. The patient has been diagnosed with psoriasis vulgaris PASI 10.2 coexistence with non-segmental vitiligo VASI 5.4, given methotrexate (MTX) 15 mg/week, folic acid 1x1 mg, cetirizine 1x10 mg, and topical desoxymethasone 0.25% and salicylic acid 3% for red scaly patches. The patient has also received phototherapy of NB UVB with an initial dose of 200 MJ/cm^2.

Discussion

The pathogenesis of psoriasis and vitiligo coexistence was unclear, but several hypotheses had been proposed. Cases of vitiligo associated

with psoriasis were first described in 1955 by Selenyi.[8] The presence of cases of coexistence of vitiligo and psoriasis with a plaque pattern of psoriasis were restricted to areas of vitiligo, indicating the possibility of a similar etiopathogenesis of these two diseases.[9] Tumor necrosis factor (TNF) α, a major cytokine, was elevated in psoriasis lesions and elevated TNF α levels were also found in perilesional skin of patients with vitiligo. Based on these findings, it can be argued that TNF α was possibly one of the underlying cytokine involved in the coexistence of vitiligo and psoriasis, however, further evaluation was needed especially about the relation to the development of targeted therapies.[10,11]

In 1982, Koransky and Roenig conducted a literature review of 25 psoriasis-related vitiligo cases found in all cases of vitiligo before psoriasis. This study suggested that a lack of melanin or a decrease in melanin could be a risk factor for plaque psoriasis with uncertain etiology.[10] Another etiopathogenesis suggested was the initiation or worsening of the lesion by trauma (Koebner phenomenon). This was also known as an isomorphic response which refers to the induction of an uninvolved skin lesion following skin trauma. The exact pathogenesis of the Koebner phenomenon was unknown.[12] The coexistence of vitiligo and psoriasis lesions over the joints of the right and left knees, right and left limbs, forehead, and breasts, in this case, might be related to the Koebner phenomenon.[13] In this case, vitiligo also occurred earlier than psoriasis, since vitiligo lesions had been present for 29 years and there was a colocalization between psoriasis and vitiligo lesions in some parts of the body whereas most of the other lesions occurred in non-vitiligo skin.

According to Chinese research, the HLA-C/HLA-B variant rs.9468925 is linked to psoriasis and vitiligo. This meant that psoriasis and vitiligo shared a genetic locus in the major histocompatibility complex (MHC), which may be used to explain the molecular mechanism of skin illnesses.[14] A family history of vitiligo has been documented in 30 percent to 40 percent of vitiligo patients, while a family history of psoriasis has been reported in 35 percent to 90 percent of people with psoriasis.[15] In these patients there was no family history of both psoriasis and vitiligo.

Other concomitant disorders were found in patients who had vitiligo and psoriasis at the same time. According to prior studies, around 33% of people with vitiligo and psoriasis had related illnesses, including arthritis and thyroiditis.[5] Thyroid hormone levels, ANA levels, and rheumatoid factor levels were all normal in this case, indicating that no other autoimmune disorders were present. The manus and pedis radiological examinations came out normal. Vitamin D levels in the blood revealed a deficit. Many autoimmune illnesses, such as systemic lupus erythematosus, psoriasis, and vitiligo, have low serum vitamin D levels. Vitamin D receptors on T and B lymphocytes, macrophages, and dendritic cells may regulate both innate and adaptive immune responses. Vitamin D3 also boosted tyrosinase activity and melanogenesis in melanocytes via vitamin D receptors.[16] There was no previous research on the association between vitamin D levels and the coexistence of psoriasis and vitiligo in a single patient until now.

Currently, there was no standard therapy for the coexistence and colocalization of psoriasis and vitiligo because of the low number of cases. Therefore, therapy for this condition is a challenge. Several case reports regarding the coexistence of vitiligo and psoriasis showed some improvement in psoriasis but not in vitiligo after the combination between NBUVB

Figure 4 Follow up after 12 weeks of therapy.

and topical steroids.[17,18] These patients were given MTX therapy, topical steroids and phototherapy of NBUVB at the initial dose of 200 M j/cm^2. At 12 weeks of follow-up therapy, there was a significant improvement in psoriasis but minimal improvement in vitiligo lesions.

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