

Rapid Progression of Localized Morphea to Disseminated Plaque-Type Morphea Following COVID-19 Infection

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Introduction

Since the emerging of the SARS-CoV-2 pandemic, different COVID-19-associated manifestations have been reported, involving nervous, hematologic, and endocrine systems [1]. As the largest organ of the body, the skin has not been an exception and is reported to be involved in COVID-19 patients with diverse manifestations, including maculopapular, vesicular, lichenoid, urticarial, vasculitis, and chilblain-like lesions [2,3]. Herein, we report a stable case of localized morphea which progressed rapidly to disseminated morphea following COVID-19 infection.

Case Presentation

A 45-year-old female patient was referred to our dermatology clinic due to asymptomatic bilateral sclerotic cutaneous lesions on the trunk and lower extremities. The patient

reported a single small lesion on her trunk from 1 year ago (which was neither enlarged nor distributed), so she did not visit a physician. Seven months later, she was infected with the SARS-CoV-2 virus, presenting with mild symptoms (including myalgia, headache, and sore throat) without any lung involvement, which was confirmed by reverse transcriptase-polymerase chain reaction (RT-PCR). She received palliative treatment in addition to azithromycin 250mg/d for 1 week, and her symptoms were resolved without any sequel. After 2 months, her cutaneous lesion spread rapidly involving her trunk and lower extremities. She did not have any systemic signs or symptoms. Her familial and personal history was negative for any autoimmune disease.

The physical examination revealed several brownish and violaceous plaques with firm ivory centers. The lesions showed symmetrical and bilateral distribution, which tend to coalesce with islands of sparing normal skin (Figure 1).

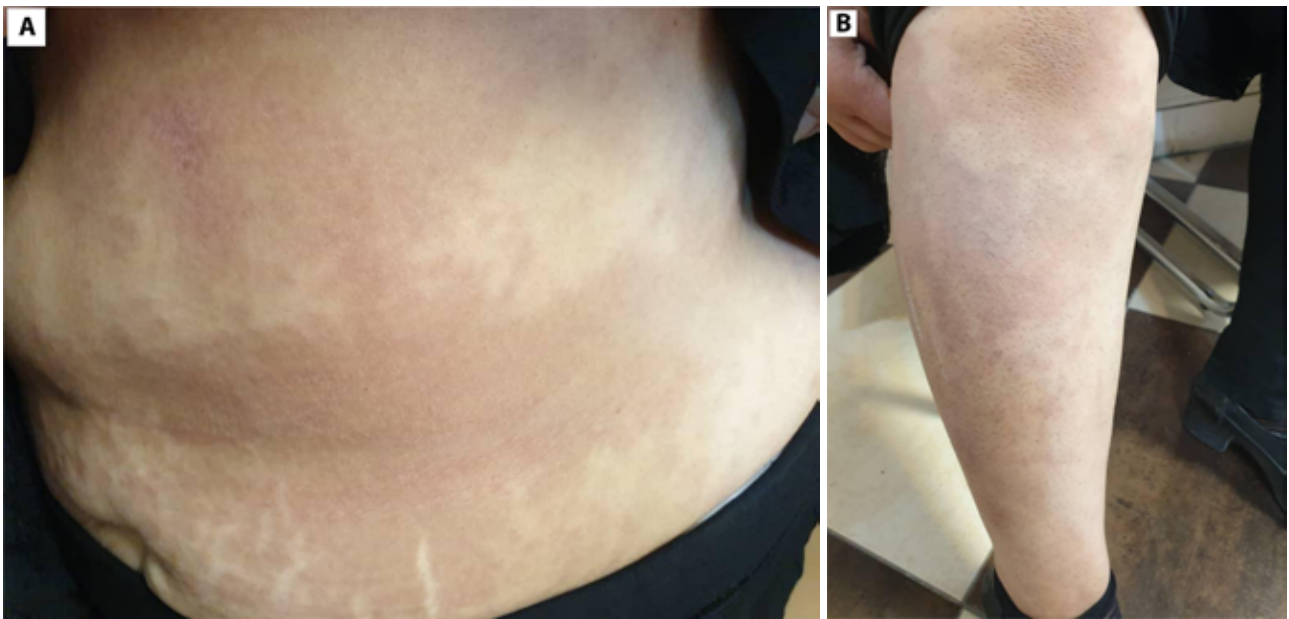


Figure 1. (A,B) Violaceous plaques with firm ivory centers tend to coalesce with islands of sparing normal skin on the trunk (A) and the leg (B) of the patient.

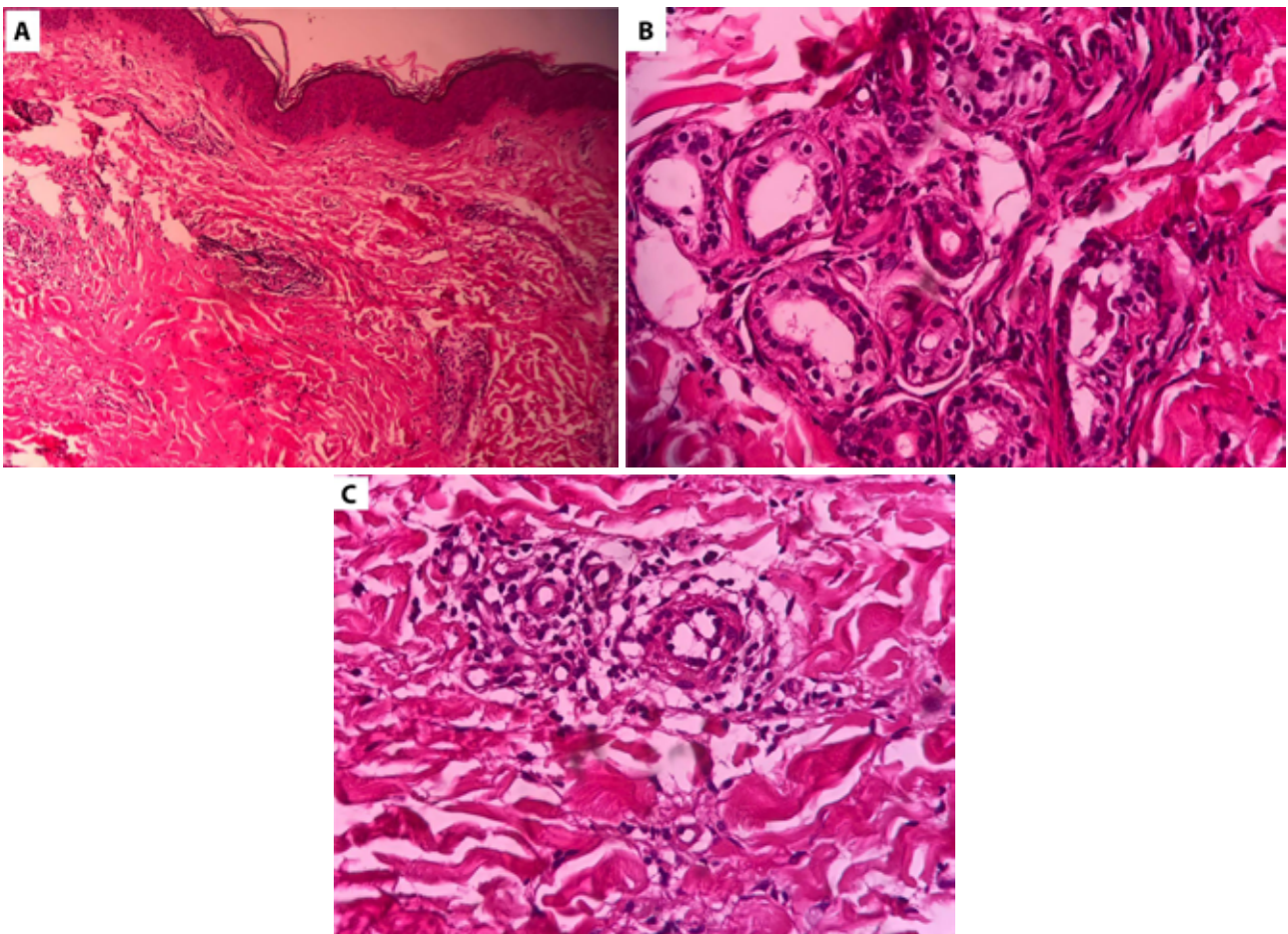


Figure 2. Thickening of dermal collagen bundles running parallel to the skin surface (A) (H&E x4), with scattered, perivascular, and periadnexal lymphoplasmacytic infiltration which extended into the hypodermis. Some eccrine glands appeared atrophic with few surrounding adipocytes (B,C) (H&E x40).

A biopsy from one of her new leg lesions revealed thickening of dermal collagen bundles running parallel to the skin surface with scattered, perivascular, and periadnexal lymphoplasmacytic infiltration, which extended into the hypodermis. Some eccrine glands appeared atrophic with few surrounding adipocytes, confirming the diagnosis of morphea (Figure 2). Narrow-band UVB therapy started for the patient, but she did not return for follow-up.

Conclusions

During the recent SARS-CoV-2 pandemic, different COVID-19-associated cutaneous disorders have been reported [2]. As infections have long been known as the most important environmental trigger in the complex pathophysiology of autoimmune diseases, it is not surprising that many of these systemic or cutaneous COVID-19-mediated diseases are autoimmune disorders [1].

Among autoimmune connective tissue disorders, several cases of new onset or deterioration of systemic lupus erythematosus were reported as a consequence of COVID-19 [1]. However, to date, there are only 2 cases of morphea reported in association with this infection. Pigliacelli et al reported the onset of limited plaque morphea following SARS-CoV-2 infection for the first time [4]. The other case was reported by Lotfi et al as pansclerotic morphea in a patient with lung cancer and COVID-19 infection [5]. However, in this case,

due to the presence of a malignant neoplasm, the correlation between morphea and COVID-19 remains questionable. To the best of our knowledge, there is no report of the evolution of localized-type morphea to disseminated plaque-type morphea following COVID-19 infection in the literature.

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