

Lichen Sclerosus on the Sites of Striae Distensae and a Surgical Scar in a Patient with Coexistent Morphea

Lichen sclerosus (LS), also known as lichen sclerosus et atrophicus, is a chronic inflammatory mucocutaneous disease affecting the genital and/or extragenital areas. Although LS usually occurs alone, its coexistence in morphea patients has been reported in 5.7% and 38.0% (genital LS) of cases, in two series (1).

A 74-year-old woman presented with a 6-month history of multiple asymptomatic, shiny, indurated, brownish large flat plaques located on the abdomen (Figure 1, a-b) and back, intermingled with slightly atrophic, white-colored, guttate, and patchy areas (Figure 1, d-e). Both punch biopsies of the sclerotic plaques on the back and abdomen showed findings

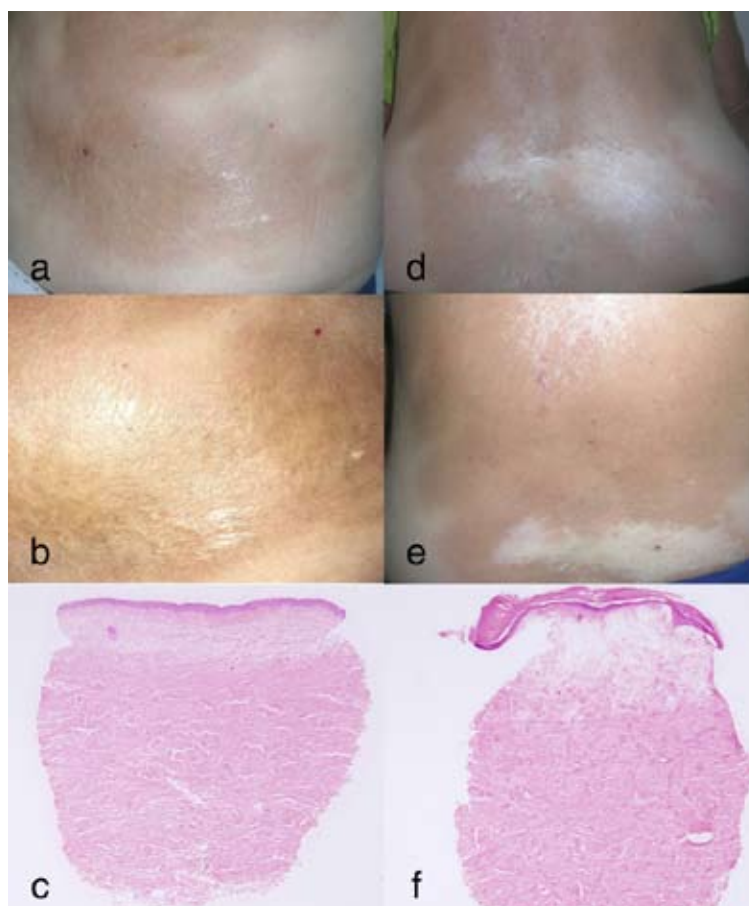


Figure 1. (a-b) Multiple, shiny, well-demarcated, large brownish plaques of morphea located on the left side of the abdomen. (c) Biopsy of the abdominal lesion shows marked sclerosis in the mid and deep dermis. (d-e) Brownish morphea plaques on the back are intermingled with slightly atrophic, white-colored, guttate, and patchy lesions of lichen sclerosus. (f) Biopsy of the white plaque on the back showed an atrophic epidermis with orthokeratotic hyperkeratosis, marked edema with homogenization of the collagen bundles in the papillary dermis as well as sclerosis of mid and deep dermis, compatible with morphea-lichen sclerosus overlap.



Figure 2. (a-c) Multiple white-colored lesions of lichen sclerosus located on the sites of pregnancy-induced striae distensae on the lower abdomen (a-b) and an old surgical scar from an appendectomy procedure (c).

consistent with morphea (Figure 1, c, f). Furthermore, the punch biopsy of a well-demarcated white plaque on the back revealed findings compatible with LS (Figure 1, f). Remarkably, there were also multiple white-colored lesions on the sites of pregnancy-induced striae distensae (SD) (Figure 2, a-b) on the lower abdomen and an old appendectomy scar (Figure 2, c). There was no anogenital involvement. A diagnosis of morphea-LS overlap was established and white lesions located on the surgical scar and SD were clinically evaluated as LS. Methotrexate (15 mg/week) achieved a partial regression of morphea plaques in three months. However, white LS lesions remained unchanged.

Our patient presented with coexistence of LS and morphea on different sites of the trunk and on the same lesion. Additionally, one of the isolated LS lesions was located on a surgical scar. Occurrence of LS on skin grafts, irradiated areas, injection sites, or burn/surgical scars has been attributed to the Koebner phenomenon, also called isomorphic response, defined as "the formation of the skin lesions in the same morphology of the existing disease on the areas of various cutaneous injuries" (2). LS is classified under the Koebner category-III (occasional lesions) (2). However, in a case of morphea with features of LS that developed in 1 month following a herpes zoster infection has been suggested to represent "Wolf's isotopic response" (3), which was originally defined as "the occurrence of a new skin disease at the site of another, unrelated and already healed skin disorder" with a time interval between the first and second

diseases ranging from months to several years (4). Remarkably, typical morphea plaques in our patient did not involve the surgical scar, in contrast to a cohort in which 16% of 329 patients developed initial morphea lesions at sites of prior (surgery) or ongoing/repetitive (chronic friction) skin trauma (5).

SD appear on skin as atrophic linear bands mostly due to rapid weight changes, pregnancy, Cushing syndrome, or prolonged use of corticosteroids (6). The mechanism underlying the occurrence of several diseases on striae is still elusive. Blunt trauma occurring during the development of striae has been suggested to cause the Koebner phenomenon in patients with vitiligo, psoriasis, and lichen planus (7), but it has been suggested that the occurrence of leukemia cutis on SD in a patient reflects Wolf's isotopic response (8). Although chronic graft-versus-host disease, urticarial vasculitis, keloid, lupus erythematosus, diffuse normolipemic plane xanthoma, and drug-induced cutaneous eruptions have been reported to occur on striae (6,9), such an association with LS as in our patient has not been previously documented in the literature.

Concomitant occurrence of LS patches on different previous lesions such as a surgical scar and SD in our patient raises the possibility of a common underlying mechanism. As mentioned above, the terms "Koebner phenomenon" or "Wolf's isotopic response" have been used to designate the development of some diseases in injured areas. However, Happle and Kluger (10) claimed in a recent statement that "there is no clear-cut criterion to distinguish isotopic response from Koebner phenomenon and all reactions of this kind represent examples of Koebner phenomenon", which seems to be the best way to describe the site-specific occurrence of LS lesions in our patient.

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