Progressive Extragenital Lichen Sclerosus Successfully Treated With Narrowband UV-B Phototherapy

Rand L. Colbert, MD; Melissa P. Chiang, MD; Christopher S. Carlin, MD; Matthew Fleming, MD; Medical College of Wisconsin, Milwaukee

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REPORT OF A CASE

A 76-year-old woman with hypertension and hepatitis C presented with a 10-year history of sclerotic, atrophic, ivory-white plaques with violaceous borders on the upper part of her trunk and on her arms, waistline, and anogenital areas (Figure 1). The plaques were gradually extending and becoming more pruritic. A biopsy revealed findings diagnostic of lichen sclerosus (LS), including an atrophic epidermis, homogenized upper dermis, and sparse chronic inflammation in the middle dermis, below the homogenized collagen.

The patient experienced a modest response to topical tacrolimus therapy, followed by more substantial improvement with topical clobetasol propionate therapy. However, several months later, she returned with worsening pruritus and enlargement of the plaques on her neck, waist, and arms. The anogenital lesions were stable. A trial of calcipotriene ointment applied to the midchest region did not produce any appreciable benefit.

CLINICAL CHALLENGE

Lichen sclerosus is a chronic inflammatory disease that presents as white, atrophic plaques characteristically involving the anogenital area of prepubertal and postmenopausal women. The cause of LS is unknown, but most studies suggest that it is multifactorial. Recently, immunoreactivity to extracellular matrix protein 1 has been demonstrated in up to 74% of cases. Extragenital lesions occur in 15% to 20% of patients. They may be localized or widespread and typically affect the neck, inframammary area, shoulders, wrists, and inner part of the thighs. In contrast to genital LS, which is accompanied by itching, burning, and dysuria, extragenital LS is typically asymptomatic. However, progressive disease may cause discomfort and pruritus.

There is no known cure for LS, but therapy is often initiated with the hope of relieving symptoms and preventing disease progression. Therapeutic success is variable. Standard treatments include topical corticosteroids and calcineurin inhibitors, such as tacrolimus.

SOLUTION

In 2002, Kreuter et al described 10 patients who were successfully treated for extragenital LS with UV-A1 phototherapy. Since a UV-A1 source was not available to us, we initiated thrice-weekly therapy with narrowband UV-B (NBUV-B). This regimen resulted in almost complete resolution of pruritus after only 3 phototherapy sessions. Therefore, the patient discontinued all topical therapy. The plaques stopped expanding, and after 1 month they were less discolored and significantly less indurated. Within 3 months, the abdominal plaques had nearly cleared (Figure 2), and the other affected areas continued to improve, with loss of active violaceous changes at their periphery. The frequency of phototherapy was decreased to twice weekly and then discontinued at the request of the patient. Three months after discontinuation of phototherapy, the patient had no relapse of pruritus or enlargement of existing sclerotic areas. She reported that she was very pleased with the therapy and had not reinitiated any other treatments for this condition.

COMMENT

We describe a patient with progressive, severely symptomatic, extragenital LS that did not respond to mul-
NBUV-B has both anti-inflammatory and immunosuppressive effects.

While several reports and small case series have demonstrated the effectiveness of UV-A1 therapy (340–400 nm) for extragenital LS,\textsuperscript{5,8,7} we could find no published studies in which NBUV-B (311–313 nm) was successfully or unsuccessfully used to treat this condition. Several studies have demonstrated that both UV-A1 and NBUV-B increase matrix-metalloproteinase levels in human skin and cultured dermal fibroblasts,\textsuperscript{9–14} which may explain the effectiveness of UV-A1 in sclerosing skin diseases. The action of NBUV-B against many of these diseases may be limited by its reduced depth of penetration, relative to UV-A1. This limitation may not apply to LS, which affects only the epidermis and the superficial dermis. Indeed, in a recent comparative study by Kreuter et al.,\textsuperscript{35} medium-dose UV-A1 therapy was shown to be statistically more effective than NBUV-B therapy for morphea. Our patient's response suggests that NBUV-B therapy can be beneficial in treating LS, producing not just symptomatic relief but modification of the disease course as well. The increased availability and favorable cost of NBUV-B in the United States compared with UV-A1, as well as the low adverse effect profile of this modality, make it an attractive alternative to other more conventional treatments of extragenital LS.

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