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Case presentation

Extragenital bullous lichen sclerosus

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Abstract

Lichen sclerosus (LS) is a chronic, inflammatory dermatosis that is characterized by pruritic, white, atrophic plaques that classically affect the anogenital region of postmenopausal women. Extragenital involvement also may occur with several reported morphologic variants. Extragenital bullous LS is a rare variant, which presents as flaccid bullae that favor the trunk and proximal aspects of the extremities. The treatment of extragenital bullous LS is similar to that of genital LS. However, extragenital LS is often less responsive and may present a therapeutic challenge. We describe a 65-year-old woman with a two-year history of vulvar and extragenital LS, who developed a bullous eruption within a pre-existing patch of lichen sclerosis on the breast. We review the clinical and histopathologic features of extragenital bullous LS and discuss current treatment options, which include those for recalcitrant cases.

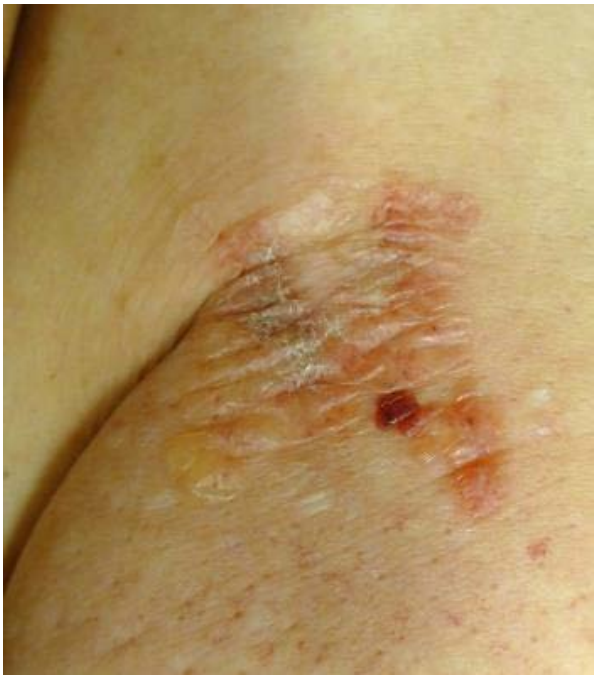
Case synopsis

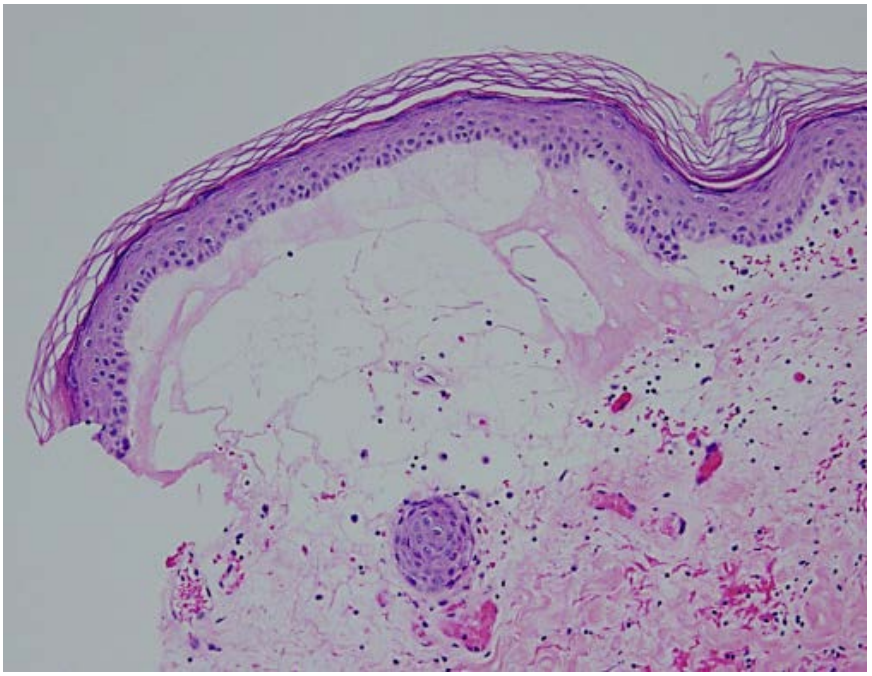
History: A 65-year-old woman was referred to the Skin and Cancer Unit in July, 2012, for evaluation of a several-week history of vulvar itching and burning. At that time, physical examination of the vulva was consistent with a diagnosis of lichen sclerosus, and a biopsy confirmed this diagnosis. She was treated with topical clobetasol propionate ointment. Three months later, she developed a white, atrophic plaque on her left breast and a biopsy was consistent with lichen sclerosus. Her vulvar symptoms were controlled with the use of intermittent topical glucocorticoids and zinc oxide. Her vulvar disease was complicated by both herpetic and yeast infections, which were treated with valacyclovir and fluconazole, respectively. In January, 2014, she noted several, new, pruritic, atrophic patches over her abdomen and buttocks and in August, 2014, she developed a bullous eruption within the atrophic patch on her left breast. Past medical history included mastocytosis, lung cancer, breast cancer, acute myeloid leukemia, and Hashimoto's thyroiditis. Her medications were levothyroxine and hydrochlorothiazide.

Physical examination: White, atrophic patches with red-brown borders were present in the inguinal folds, along with scarred clitoral hood and slightly white inter-labial sulci. There were atrophic, white patches in the perineum and perianal areas. On the body, multiple, white, atrophic plaques that ranged from one cm to four cm in size were present over the abdomen, chest, and buttocks. On the left breast there was a larger, two cm by five cm, red and white, atrophic plaque with overlying bullae, some of which were hemorrhagic.

Laboratory data: None

Histopathology: There is a focal, subepidermal vesiculation, edema, and focal sclerosis of the papillary dermis. In addition, there is a patchy, band-like, predominantly lymphocytic infiltrate.





Figures 1. Atropic plaque with hemorrhagic vesicles Figure 2. Subepidermal vesiculation with edema and focal sclerosis of dermis

Discussion

Diagnosis: Extragenital bullous lichen sclerosus

Comment: Lichen sclerosus (LS) is a chronic, inflammatory dermatosis that is classically characterized by pruritic, white, sclerotic, atrophic plaques that most commonly affect the anogenital region. It is an uncommon disease with an estimated prevalence of 0.1 to 0.3% [1]. Both sexes are affected, with a predilection for women in whom there is a bimodal distribution that occurrs prepubescently and postmenopausally [2]. It is estimated that 15 to 20% of all patients with LS have extragenital involvement [3]. Extragenital LS is generally asymptomatic and preferentially involves the trunk and proximal aspects of the extremities [4]. Bullous LS, which is characterized by flaccid bullae that are commonly hemorrhagic and lead to ulcers and erosions, may be both genital and extragenital. Although traditionally thought to be a rare variant of LS, a recent review sited 32 reported patients with extragenital bullous LS that dated from 1936 to the present, which suggests that this entity may be more common than was previously considered [5].

Although LS was first described in the 1800's both clinically by Hallopeau and histopathologically by Darier, its etiology remains unclear [6]. Currently favored is an autoimmune process that occurrs in predisposed individuals. There is an association between LS and other autoimmune diseases, which include thyroid disorders, vitiligo, alopecia areata, and type I diabetes mellitus [7]. Several studies have shown an increase in circulating antibodies against proteins within or regulating the basement-membrane zone in patients with LS, which include extracellular matrix 1 protein and bullous pemphigoid antigens 180 and 230 [8,9]. Theoretically, an autoimmune process could result in bullae formation, such as those seen in the bullous variant of LS.

Characteristic histopathologic features of LS include epidermal atrophy with orthohyperkeratosis, follicular plugs, and a band of edematous, homogenized collagen in the papillary dermis with varying degrees of lymphocytic infiltrates [10]. The histopathologic formation of subepidermal bullae, as observed in bullous LS, has been attributed to two mechanisms. One is a vacuolar interface dermatitis that causes basal layer degeneration and basement-membrane zone instability, and the second is papillary dermal edema that leads to disruption of the supporting collagen fibers [11,12].

The treatment of extragenital bullous LS is similar to that of genital LS. However, extragenital LS often is less responsive and may therefore present a therapeutic challenge [13]. The treatment of choice for extragenital LS is the application of super-potent topical glucocorticoids with or without topical calcineurin inhibitors for long-term daily use [13,14]. Other recommended first-line therapies include intralesional glucocorticoids at anti-inflammatory doses for more limited disease and systemic glucocorticoids for widespread disease or in cases refractory to topical treatment [13-16]. For cases of extragenital LS refractory to glucocorticoids, methotrexate or phototherapy may be considered. Of the two cases of extragenital bullous LS that were treated with methrotrexate in the literature, both demonstrated complete disease control [5,16]. Phototherapy, especially UVA1, is a treatment modality that has been shown to clear extragenital lesions more effectively than genital lesions. However, there have

been no reported cases of extragenital bullous LS treated with phototherapy [17-19]. In our case, the extragenital lesions became asymptomatic after a short course of topical glucocorticoids and subsequent treatment was with emollients alone.

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