

# Urticarial linear IgA bullous dermatosis (LABD) as a presenting sign of chronic lymphocytic leukemia (CLL)

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Linear IgA bullous dermatosis (LABD) is an autoimmune subepidermal vesiculobullous disease. The exact cause of LABD is unknown, but there are many associated conditions that have been reported in the literature, including medications, gastrointestinal diseases, autoimmune diseases, infections, and malignancies, including lymphoma.<sup>1-5</sup>

## CASE REPORT

A 46-year-old man presented with a 1-year history of recurrent rash and painful mouth sores. On physical examination, he had widespread, scattered, arcuate and annular erythematous macules and urticarial plaques over his trunk and extremities (Fig 1), and numerous oral vesicles and perioral superficially eroded papules. His medical history was significant for gastroesophageal reflux disease, bleeding stomach ulcers, a photoexacerbated rash 1 year prior, a severe herpes zoster infection of the head and neck 6 months before presentation, unexplained weight loss of 15 to 18 lb over the last year, and an outside complete blood cell count with mild atypical lymphocytosis. He had no history of inflammatory bowel disease or autoimmune disease. He reported night sweats and fatigue, but denied headaches, fevers, chills, abdominal pain, nausea, vomiting, and diarrhea. His only medications were omeprazole and acetaminophen of which he had been taking 500 mg

every 4 to 6 hours for about 2 months for what was believed to be postherpetic neuralgia.

A biopsy specimen showed a subepidermal vesicular dermatitis with numerous neutrophils extending along the dermoepidermal junction (Fig 2). A repeated biopsy specimen for direct immunofluorescence showed linear IgA deposition at the basement membrane zone, consistent with the diagnosis of LABD (Fig 3). IgG, complement component 3, IgM, fibrin, and albumin were negative. There was no evidence of malignancy in either biopsy specimen. The patient had no concern for infection. A rapid stain for herpes simplex and varicella zoster viruses and a herpes simplex virus culture revealed negative findings. The patient had also been treated empirically with a course of cephalexin and acyclovir during active disease but did not improve with either treatment.

The origin of the LABD was unclear; however, his history of weight loss, fatigue, night sweats, severe herpes zoster infection 6 months prior, and lymphocytosis were concerning for an underlying malignancy. Therefore, further workup was performed. Complete blood cell count showed an elevated absolute lymphocyte count (5.85 k/ $\mu$ L; normal range is 1.0-4.80 k/ $\mu$ L) with atypical lymphocytes and normal hemoglobin and platelet count. Flow cytometry of peripheral blood showed monoclonal k-restricted CD5<sup>+</sup>/CD19<sup>+</sup>/CD20<sup>+</sup>/CD23<sup>+</sup>/CD38<sup>+</sup>/zeta-chain (T-cell receptor)-associated protein

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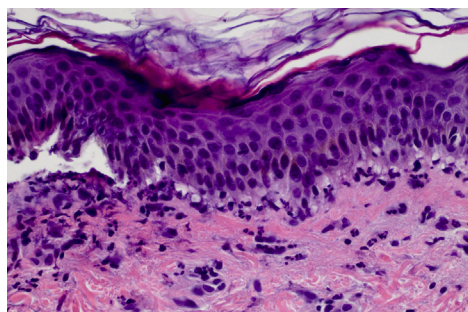
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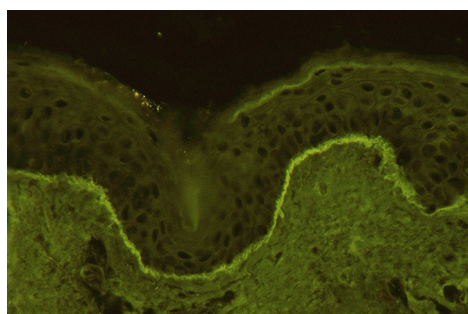
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**Fig 1.** Clinical presentation, left flank: annular erythematous urticarial plaque.



**Fig 2.** Initial biopsy specimen for hematoxylin-eosin: subepidermal vesicular dermatitis with numerous neutrophils extending along the dermoepidermal junction.



**Fig 3.** Repeated biopsy specimen for direct immunofluorescence: linear IgA deposition present at the basement membrane zone, consistent with the diagnosis of linear IgA bullous dermatosis.

kinase 70 kd<sup>+</sup> B-cell population, consistent with the diagnosis of chronic lymphocytic leukemia (CLL). A computed tomography scan of chest, abdomen, and pelvis showed diffuse lymphadenopathy. A bone-marrow biopsy specimen demonstrated a normocellular marrow with maturing trilineage hematopoiesis and nodular and interstitial lymphoid aggregates comprising 5% to 40% of total cellularity. Fluorescent in situ hybridization was positive for trisomy 12.

Once given a diagnosis of LABD, the patient was instructed to discontinue all medications to rule out drug-induced LABD. Despite refraining from these medications for over 3 months, the patient continued to manifest new skin lesions.

The patient was treated with fludarabine and rituximab. His night sweats and fatigue resolved after 2 treatment cycles. After 6 cycles of chemotherapy, he achieved partial remission of his CLL and complete resolution of his LABD. Since resolution of his LABD, the patient has taken both omeprazole and acetaminophen with no evidence of LABD recurrence.

## DISCUSSION

The underlying mechanism responsible for LABD in this case is unclear, but it is thought to most likely be a result of his underlying CLL. CLL may be associated with other bullous dermatoses, including bullous pemphigoid, paraneoplastic eruptions (including rare reports of IgA-mediated disease), and exaggerated bite-type reactions.<sup>3</sup> There has been 1 other reported case of LABD associated with CLL.<sup>4</sup> That patient presented similarly to ours, with large areas of urticated annular erythema in the axillae and over the trunk. However, that patient had already been given a diagnosis of CLL and received 2 months of treatment with chlorambucil and allopurinol before the onset of LABD. Furthermore, the mucous membranes of the mouth and eyes were not involved in that case.

In summary, to our knowledge, this is the second reported case of paraneoplastic LABD associated with CLL, and the first to have LABD as a presenting sign. Furthermore, this patient presented atypically, with annular urticarial plaques, oral vesicles, and perioral eroded papules, rather than the classic lesions of vesicles or bullae arranged in a “crown of jewels” pattern. It has been reported that drug-induced LABD is more severe than spontaneous form.<sup>5</sup> In our case, the paraneoplastic form also presented severely, although generalizations cannot be made from this 1 case. Clinicians need to be aware of these rare paraneoplastic skin dermatoses to establish proper diagnosis and treatment of the underlying conditions, which may lead to resolution of not only the underlying disease, but the skin manifestations as well.

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