

# The Role of the Isomorphic Phenomenon in Distinguishing Drug-Induced Linear IgA Bullous Dermatitis

Isha Lopez, Gabriela B. Callahan, Ronald E. Grimwood and Lu Q. Le\*

University of Texas Southwestern Medical Center at Dallas, Texas, USA

**Keywords:** Drug-induced linear IgA bullous dermatosis; Isomorphic phenomenon; Koebnerization; Vancomycin

## Editor

We report two cases of drug-induced linear IgA bullous dermatosis (LABD) demonstrating the isomorphic (koebnerization) phenomenon. These cases are consistent with a previously reported case in the literature and further strengthen this association, making trauma a plausible explanation for the development of bullous lesions in our patients [1]. This knowledge may aid clinicians at bedside when suspecting drug-induced LABD, allowing for earlier intervention. Our first patient was a 49-year-old white female admitted for an infected abdominal mesh. Eight days after starting vancomycin and 24-hours after receiving one dose of fluconazole, she developed bullae and vesicles in her upper and lower extremities, abdomen, and genitalia. Physical exam revealed tense bullae on noninflammatory bases and superficial erosions in these areas, as well as few targetoid lesions on her thighs and palms. Most significantly, blisters erupted along areas where clear or paper adhesive tape was placed on her skin (Figure 1). Vancomycin and fluconazole were discontinued. A skin biopsy of an intact blister revealed a subepidermal vesicle with numerous neutrophils and eosinophils. A perilesional skin biopsy sent for direct fluorescence antibody (DFA) testing confirmed the diagnosis of LABD. She improved once vancomycin was discontinued. Our second patient was a 58-year-old white male who underwent multiple abdominal surgeries. His antibiotic regimen included vancomycin. Before discharge, he developed a urinary tract infection and was given nitrofurantoin. He returned 3 days later with a bullous rash. Physical exam revealed firm, serous-filled bullae involving his lower extremities, suprapubic region, back and abdomen. Interestingly, he developed koebnerization at sites of Steri-strip placement, similar to patient 1 (Figure 2). Nitrofurantoin and vancomycin were discontinued. Skin biopsies revealed subepidermal vesicles with neutrophils and DFA confirmed the LABD diagnosis. He gradually



**Figure 1:** Bullae and superficial erosions under adhesive tape on abdomen of Patient.



**Figure 2:** Tense bullae and blisters demonstrating the isomorphic phenomenon along previously taped area on the abdomen of Patient 2.

recovered after discontinuing the possible offending agents and administering prednisone.

LABD is a subepidermal autoimmune blistering disease that can be idiopathic or acquired. Regardless of etiology, LABD predilects the trunk, but lesions can erupt on upper and lower extremities, mucosal sites, and can accompany targetoid lesions. [1,2] Tense bullae classically manifest a “crown of jewels” pattern. LABD presentation may resemble bullous pemphigoid, dermatitis herpetiformis, or Steven Johnson’s; however, histopathological examination and specifically DFA testing distinguishes LABD [3].

Commonly acquired cases are drug-induced or secondary to malignancies, such as chronic lymphocytic lymphoma, multiple myeloma or Hodgkin’s lymphoma [1,4]. Other autoimmune diseases have been reported to be associated with LABD, including Crohn’s disease, ulcerative colitis, systemic lupus erythematosus, and multiple sclerosis [5]. Drug-induced LABD commences shortly after initiation of medications, vancomycin being the most common culprit, with lesions erupting after 1-13 days [1,6]. Other agents implicated in LABD include ciprofloxacin, furosemide, trimethoprim-sulfamethoxazole, penicillin, amiodarone and diclofenac. [1,2] Vancomycin likely caused

**\*Corresponding author:** Lu Q. Le, UT Southwestern Medical Center at Dallas, 5323 Harry Hines Blvd, Dallas, Texas 75390-9190, USA, Tel: 214-648-1157; Fax: 214-648-1960; E-mail: [Lu.Le@UTSouthwestern.edu](mailto:Lu.Le@UTSouthwestern.edu)

**Accepted** September 28, 2010; **Published** September 30, 2010

**Citation:** Lopez I, Callahan GB, Grimwood RE, Le LQ (2010) The Role of the Isomorphic Phenomenon in Distinguishing Drug-Induced Linear IgA Bullous Dermatitis. J Clin Exp Dermatol Res 1:104. doi:10.4172/2155-9554.1000104

**Copyright:** © 2010 Lopez I, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.



LABD in our patients, but we cannot exclude nitrofurantoin and fluconazole as lesions erupted 24-hours after commencing these drugs. To our knowledge, there have been no reports of LABD with nitrofurantoin or fluconazole, lessening the likelihood these drugs caused LABD in our patients.

Drug-induced LABD is a self-limiting disease expected to resolve, usually in 2-3 weeks, after discontinuation of the offending agent(s). Some cases require further pharmacologic treatment with corticosteroids, dapsone, mycophenolate mofetil, or other immunosuppressives. In the setting of koebnerization, as manifested in our patients, emphasis should also be placed on gentle skin care, while limiting or avoiding the use of tapes and adhesives when possible.

## Reference

1. McDonald HC, York NR, Pandya AG (2010) Drug-induced linear IgA bullous dermatitis demonstrating the isomorphic phenomenon. *J Am Acad Dermatol* 62: 897-898.
2. Wiadrowski TP, Reid CM (2001) Drug-induced linear IgA bullous disease following antibiotics. *Australas J Dermatol* 42: 196-199.
3. Jones DH, Todd M, Craig TJ (2004) Early diagnosis is key in vancomycin-induced linear IgA bullous dermatitis and Stevens-Johnson syndrome. *J Am Osteopath Assoc* 104: 157-163.
4. Chorzelski TP, Jabłońska S, Maciejowska E (1991) Linear IgA bullous dermatitis of adults. *Clin Dermatol* 9: 383-392.
5. Abreu A, Bowers K, Mattson DH, Gaspari AA (1994) Linear IgA bullous dermatitis in association with multiple sclerosis. *J Am Acad Dermatol* 31: 797-799.
6. Solky BA, Pincus L, Horan RF (2004) Vancomycin-induced linear IgA bullous dermatitis: morphology is a key to diagnosis. *Cutis* 73: 65-67.

