

**VANCOMYCIN-INDUCED LINEAR IGA BULLOUS DERMATOSIS WITH ISOMORPHIC RESPONSE**

Tatsuhiko Mori, Toshiyuki Yamamoto

*Department of Dermatology, Fukushima Medical University, Fukushima, Japan***Source of Support:**

Nil

**Competing Interests:**

None

**Corresponding author:** Prof. Toshiyuki Yamamoto[toyamade@fmu.ac.jp](mailto:toyamade@fmu.ac.jp)

Our Dermatol Online. 2013; 4(Suppl. 3): 619-620

Date of submission: 24.07.2013 / acceptance: 16.09.2013

**Abstract**

Linear IgA bullous dermatosis (LABD) is occasionally induced by certain drugs, of which vancomycin is the most common. We herein describe a case of vancomycin-induced LABD on the trunk and extremities. Our case was unique in which tense bulla was induced on the old operation scars. A 92-year-old man developed diffuse erythema and bullas on his trunk and extremities. Also, blister formation was observed on the operation scar on the abdomen. A biopsy specimen showed subepidermal split with neutrophilic and lymphocytic infiltration in the upper dermis. Direct immunofluorescence showed a linear IgA deposition at the basement membrane zone. His skin conditions were improved by stoppage of vancomycin and topical corticosteroids. We should know about the occurrence of LABD in patients under vancomycin treatment.

**Key words:** drug; vancomycin; linear IgA bullous dermatosis; isomorphic response; Koebner phenomenon**Cite this article:**

Tatsuhiko Mori, Toshiyuki Yamamoto: Vancomycin-induced linear IgA bullous dermatosis with isomorphic response. *Our Dermatol Online*. 2013; 4(Suppl.3): 619-620.

**Introduction**

Linear IgA bullous dermatosis (LABD) is a rare autoimmune subepidermal bullous disease, characterized by linear IgA deposition at the basement membrane zone. LABD is occasionally induced by certain drugs, of which vancomycin is the most common. Vancomycin-induced LABD shows various clinical features, such as dermatitis herpetiformis, erythema multiforme, toxic epidermal necrolysis, and erythroderma [1]. We herein report a case of vancomycin-induced LABD with isomorphic response.

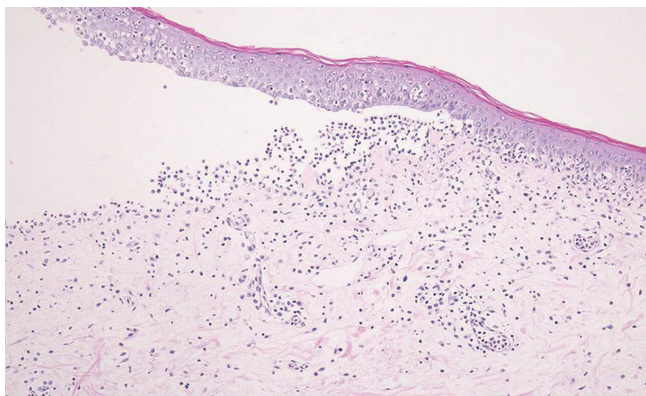
**Case Report**

A 92-year-old Japanese man was referred to dermatology, for the diffuse erythematous eruption on the trunk. He was hospitalized for the treatment of cerebral infarction, and treated with vancomycin for methicillin-resistant *Staphylococcus aureus* (MRSA) infection. Oral vancomycin was initially started, which however was not sufficiently effective. Two weeks later, intravenous vancomycin (1 g/day) was started. On the 12th day, erythema and vesicles appeared on his trunk and extremities, and spread on the whole body. On physical examination, erythema and tense bullae were widely recognized on the trunk and extremities. Also, tense blisters were localized to the old operation scars on the abdomen (Fig. 1). A biopsy specimen showed a subepidermal bulla containing abundant neutrophils

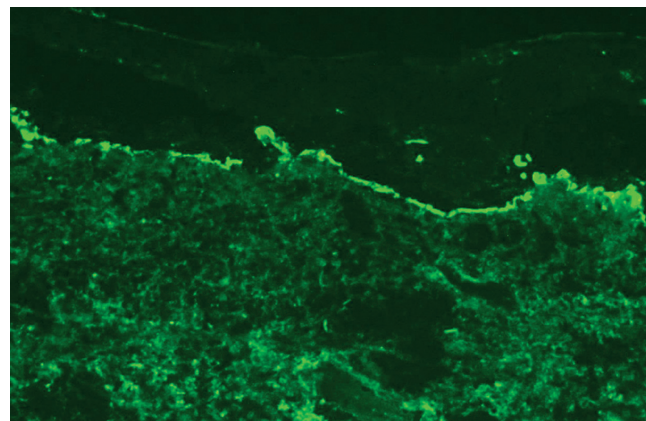
and lymphocytes (Fig. 2). Direct immunofluorescence studies showed linear deposition of IgA along the basement membrane (Fig. 3), whereas negative for IgM, IgG and C3. Vancomycin infusion was stopped and the patient treated with topical corticosteroid ointment. The eruption improved within 3 weeks.



**Figure 1.** Multiple tense blisters on the operation scars (arrow), as well as erythema spreading on the trunk.



**Figure 2. Subepidermal blister with numerous neutrophils and lymphocytes in the upper dermis.**



**Figure 3. Direct immunofluorescence showing linear IgA deposition at the basement membrane zone.**

## Discussion

LABD can be induced by various kinds of drugs such as vancomycin, rifampicin, penicillin, cephalosporin, amoxicillin, cefuroxime, captopril, lithium, metronidazole, trimetoprim sulfamethoxazole, furosemide, atorvastatin, amiodarone, diclofenac, and amlodipine. Vancomycin is the most common drug, however, the pathomechanisms of drug-induced LABD are still unknown. Several possible antigens have been detected by immunoblotting, such as 97-kD, 120-kD, 180-kD, 230-kD, 250-kD, and 285-kD proteins [2]. Certain drugs may elicit autoimmune responses, which lead to the break of self-tolerance to native antigens [3].

Isomorphic response (Koebner phenomenon) means the occurrence of new, unrelated disorders on previously healed sites [4]. Bullous lesions in autoimmune bullous dermatosis, especially bullous pemphigoid, occasionally develop on the operation scars or peri-stomal areas. To date, only limited cases of LABD showing isomorphic response have been reported [5], which developed exclusively where adhesives were previously applied. Our case developed tense bullae in the heart operation scar on the abdomen, as well as spreading on the trunk. Although vesiculo-bullous lesions of drug-induced LABD occur on the trunk and extremities in the majority of cases, a case involved only the palms has rarely been reported [6]. Traumatized epidermis may express antigens or expose new epitopes.

Usually, vancomycin-induced LABD causes blisters between 1 day to 2 weeks after use. In our case, vancomycin was first administered orally for 2 weeks, followed by intravenous

administration. On the 12th days, widespread erythema and bullae were induced on the trunk and extremities. Discontinuance of vancomycin with topical corticosteroids rapidly improved the skin condition within 3 weeks. We should keep in mind the use of vancomycin, if we are consulted for inpatients with a number of blisters.

## REFERENCES

1. Aso Y, Oyama N, Nakamura-Wakatsuki T, Yamamoto T, Yoneda M: Possible dual immunoreactivity for laminin-332 and type VII collagen in a case with vancomycin-induced linear IgA bullous dermatosis manifesting as erythroderma. *Clin Exp Dermatol Res.* 2012;3:1.
2. Fortuna G, Salas-Alanis JC, Guidetti E, Marinkovich MP: A critical reappraisal of the current data on drug-induced linear immunoglobulin A bullous dermatosis: a real and separate nosological entity? *J Am Acad Dermatol.* 2012;66:988-94.
3. Guide SV, Marinkovich MP: Linear IgA bullous dermatosis. *Clin Dermatol.* 2001;19:719-27.
4. Ruocco V, Ruocco E, Ghersetich I, Bianchi B, Lotti T: Isotopic response after herpesvirus infection: an update. *J Am Acad Dermatol.* 2002;46:90-4.
5. McDonald HC, Pandya AG: Drug-induced linear IgA bullous dermatosis demonstrating the isomorphic phenomenon. *J Am Acad Dermatol.* 2010;62:897-8.
6. Walsh SN, Kerchner K, Sangüeza OP: Localized palmar vancomycin-induced linear IgA bullous dermatosis occurring at supratherapeutic levels. *Arch Dermatol.* 2009;145:603.