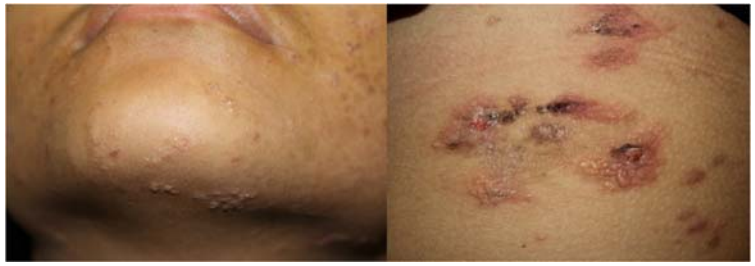
Case 6
A 14-year-old Thai girl from Prajeanburi

Chief complaint: Multiple painful and pruritic vesicles on face, ears, trunk, back and arms for 6 months.


(Fig. 6.1)

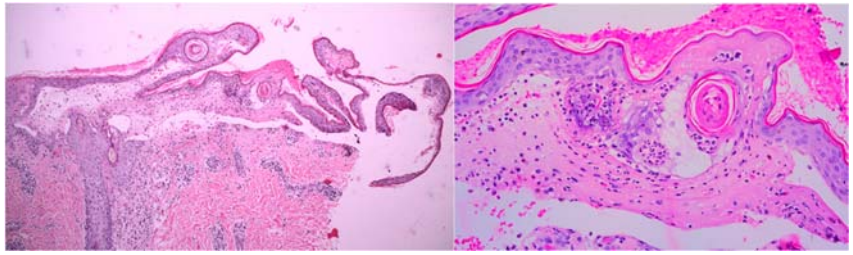
Present illness: Multiple painful and pruritic vesicles developed on the patient's face, ears, trunk, back and arms for 6 months. There were no lesions in the mouth or genitalia. She did not complain of fever, joint pain or photosensitivity and was not using any medication or herbal remedies.

Past history: No underlying diseases

Physical examination:
T 37.1 C, no pale conjuctivae, no mucosal lesions
All examinations were within normal limits.

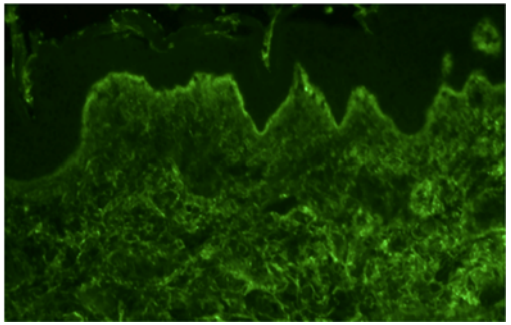
Dermatological examination: (Fig. 6.1)
Multiple groups of vesicles and tense bullae on erythematous base on face, trunk, back and arms. Some erosions on trunk.

Histopathology: (S16-32734, S16-32263, Left arm) (Fig. 6.2)


(Fig. 6.2)

- Subepidermal blister with mixed inflammatory cell infiltrate composed of mainly neutrophils, lymphocytes and eosinophils
- Numerous neutrophils and nuclear dust along dermoepidermal junction of adjacent epidermis

Direct immunofluorescence:


(Fig. 6.2)

- IgA deposition in linear pattern along dermoepidermal junction

Laboratory investigations:

- CBC: Hct 38.20%, WBC 9,570 cells/µL (N 56%, L 33%, Eo 3% Mono 7%, Baso 1%), Plt 333,000 cells/µL
- AST 32 U/L, ALT 34 U/L, BUN 10 mg/dL, Cr 0.81 mg/dL
- ESR: 27 mm/hr
- ANA: Positive fine speckled titre 1:320
- ANA profile 12 specific nuclear antigens: Negative
- Anti-BP 180: 5.7 RU/mL (negative)
- Anti-BP 230: 5.0 RU/mL (negative)
- G6PD: Normal

Diagnosis: Linear IgA bullous dermatosis

Treatment:

- Oral dapsone 50 mg/day then tapered down to 50 mg alternate day
- Oral cetirizine 10 mg/day
- 0.1% mometasone furoate cream apply on lesions once daily

Presenter: Siriorn Udompanich, MD

Consultant: Kumutnart Chanprapaph, MD

Discussion:

Linear IgA bullous dermatosis is a rare autoimmune vesiculobullous disease that occurs in both adult, mostly after their fourth decade of life, and young children. It is characterized by linear deposition of IgA along the basement membrane.[1]

In 1975, Chorzelski and Jablonska suggested that LABD is a distinct disease based on its immunologic and histologic finding.[2] The characteristic linear IgA deposition was later identified along the dermoepidermal junction in children with 'chronic bullous dermatitis of childhood', a disease which shares the same pathogenesis as LABD.[3] (see below)

It is well known that IgA class antibodies target 97 kDA and 120 kDa of BPAG2. However, a recent study has found that there are various target antigens in the basement membrane, including type VII collagen. Thus, LABD is sometimes divided into lamina lucida type and sublamina densa type.[4] The disease can occur spontaneously but can also be induced by medications, vancomycin being the most common cause.

LABD has a rather heterogenous clinical presentation. The lesions can be pruritic annular or grouped papules, vesicles and bullae, typically found on extensors. The classic 'cluster of jewels' presentation is rare. The disease can mimic dermatitis herpetiformis, bullous pemphigoid, EBA etc.[5] The drug induced form is often more severe and can mimick SJS/TEN.[6] Mucosal involvement is common with oral lesions up to 70% and conjunctival lesions in 50% of the patients.[7]

The most frequent finding on histology is subepidermal blister with neutrophils, although eosinophils can be present. Occasionally, there is collection of neutrophils in the papillary dermis, a finding similar to those of dermatitis herpetiformis. Direct immunofluorescence reveals linear deposition of IgA along the dermoepidermal junction of perilesional skin.[7]

The association of LABD with other diseases were reported but none were proven. Possible associations are with inflammatory diseases such as gluten sensitive enteropathy, autoimmune diseases such as SLE, haematological malignancies and various infections.[7]

Treatment with dapsone gives a dramatic response within 24-48 hours. The dose is 100-300 mg daily for adult and 1-2 mg/kg daily for children. Alternatively, sulfapyridine, prednisolone,

mycophenolate mofetil, azathioprine and IVIG can give positive outcome.[7]

In terms of prognosis, a recent retrospective study revealed that one third of the patient sustained complete remission (median 6 months), while one third suffers from relapse, and in the other third the disease went on a chronic relapsing and remitting course. The good prognostic factors associating with complete remission includes being older than 70 years old at onset and not having any mucosal involvement.[8]

Chronic bullous dermatitis of childhood (CBDC) is also caused by IgA autoantibody attacking the basement membrane. However, when compared to LABD, CBDC occurs in younger population (<5 years old), typical cluster of jewels lesions are more common but mucosal involvement less likely. The prognosis is slightly better, most patients have spontaneous remission in 2 years.[9]

In conclusion, the diagnosis of LABD should be considered when there is a vesicular eruption involving the skin or mucous membrane, subepidermal blister with neutrophils on histology and linear IgA deposition along dermoepidermal junction on direct immunofluorescence.

References:

1. Rao CL and Hall RP. Linear immunoglobulin A dermatosis and chronic bullous disease of childhood. Fitzpatrick's dermatology in general medicine. 8th Edition New York:McGraw-Hill;2012:623-629.
2. Chorzelski TP, Jablonska S. Diagnostic significance of the immunofluorescent pattern in dermatitis herpetiformis. Int J Dermatol 1975;14:429-36.
3. Chorzelski TP, Jablonska S. IgA linear dermatosis of childhood (chronic bullous disease of childhood). Br J Dermatol 1979;101:535-42.
4. Ohata C, Ishii N, Koga H, Nakama T. A clinical and serological study of linear IgA bullous dermatosis without linear immunoglobulin deposition other than IgA at the basement membrane zone using direct immunofluorescence. Br J Dermatol 2017;177:152-7.
5. Sobjanek M, Sokolowska-Wojdylo M, Sztaba-Kania M, Baranska-Rybak W, Maciejewska A, Wlodarkiewicz A. Clinical and immunopathological heterogeneity of 22 cases of linear IgA bullous dermatosis. J Eur Acad Dermatol Venereol 2008;22:1131.
6. Chanal J, Ingen-Housz-Oro S, Ortonne N, Duong TA, Thomas M, Valeyrie-Allanore L, et al. Linear IgA bullous dermatosis: comparison between the drug-induced and spontaneous forms. Br J Dermatol 2013;169:1041-8.
7. Hull CM and Zone JJ. Dermatitis and linear IgA bullous dermatosis. Bolognai J, et al Dermatology 3rd edition Philadelphia:Elsevier;2012:496-499
8. Gottlieb J, Ingen-Housz-Oro S, Alexandre M, Grootenboer-Mignot S, Aucouturier F, Sbidian E, et al. Idiopathic linear IgA bullous dermatosis: prognostic factors based on a case series of 72 adults. Br J Dermatol 2017;177:212-22.
9. Horiguchi Y, Ikoma A, Sakai R, Masatsugu A, Ohta M, Hashimoto T. Linear IgA dermatosis: report of an infantile case and analysis of 213 cases in Japan. J Dermatol 2008;35:737-43.