AUTOIMMUNE BULLOUS DISEASES

AUTOANTIBODY PROFILE OF COHORT OF ITALIAN PATIENTS WITH LINEAR IGA DERMATOSIS

G Gasparini [1] - E Cozzani [1] - G Di Zenzo [2] - A Salemme [2] - A Agnoletti [1] - C Vassallo [3] - M Caproni [4] - E Antiga [4] - A Marzano [5] - R Cavalli [6] - C Ocella [7] - C De Simone [8] - Aurora Parodi [1]

University of Genoa, Dermatology Department, Department of Health Sciences, Genoa, Italy [1] - IDI-IRCCS, Laboratory of Molecular and Cell Biology, IDI-IRCCS, Rome, Italy [2] - Fondazione IRCCS Policlinico San Matteo, Institute of Dermatology, Department of Clinical-Surgical, Diagnostic, and Pediatric Science, Pavia, Italy [3] - University of Florence, Section of Dermatology, Department of Surgery and Translational Medicine, Florence, Italy [4] - Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, UOC Dermatologia, Milan, Italy [5] - Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, UOC Dermatologia Pediatrica, Milan, Italy [6] - IRCCS G. Gaslini Children's Hospital, Dermatology Unit, Department of Surgery and Intensive Care,, Genoa, Italy [7] - Catholic University of the Sacred Heart, Dermatology Department, Rome, Italy [8]

Introduction: Linear IgA bullous disease (LABD) is an IgA-mediated autoimmune bullous disorder of adults and children, characterized by sub-epidermal blisters and linear deposits of IgA at the basement membrane zone (BMZ). LABD is immunologically heterogeneous with autoantibodies direct against various hemidesmosomal antigens.

Objective: To characterize the humoral response in a cohort of Italian patients with LABD. Secondly, to demonstrate LAD-1 as major autoantigen in patients affected by the lamina lucida LABD subtype.

Material and Methods: A retrospective multicentric study was conducted on 60 patients with LABD. Reactivity profile of patients' sera was investigated by indirect immunofluorescence (IIF) on monkey oesophagus, IIF on salt-split skin (SSS), ELISA testing for anti-BP180 and anti-BP230 IgG and IgA, and immunoblotting for the detection of IgA autoantibodies based on affinity purified LAD-1.

Results: IIF showed anti-BMZ IgA in 13% of patients' sera. IgA deposition at IIF-SSS showed a lamina lucida pattern, a sub-lamina densa pattern and a mixed pattern in 45%, 3% and 13% of patients sera respectively. On ELISA testing 30% of patients had anti-BP180-NC16A IgA and 25% had anti-BP230 IgA. IgA reactivity to LAD-1 on IB was found in 48% of patients' sera. Out of the 27 patients with a lamina lucida binding pattern, 70%

had reactive IgA to LAD-1 on IB. Overall IgG autoantibodies detected by either IIF-SSS or ELISA testing were found in 22% of cases.

Conclusions: LABD is characterized by an heterogenous humoral response, comprising mainly IgA and to a lesser extent IgG autoantiboides. Whether all of these auto-antibodies have an actual pathogenicity is still to be established. Several BMZ antigens are targeted by autoantibodies in LABD. LAD-1 is a major auto-antigen of the lamina lucida subtype. Direct immunofluorescence remains the golden standard for LABD diagnosis, as IIF, IB, and ELISA testing for circulating IgAs show lower sensitivity.