The Ocular Cicatricial Pemphigoid Antigen

C. Stephen Foster, M.D.

Ocular cicatricial pemphigoid (OCP) is an uncommon potentially blinding systemic vesiculobullous autoimmune disease that affects conjunctiva and, in some instances, other squamous epithelia. OCP has some common pathophysiological features with other bullous diseases, such as linear IgA bullous disease and cicatricial pemphigoid , and sera of patients with bullous pemphigoid (BP), epidermolysis bullosa aquisita, linear IgA disease and cicatricial pemphigoid have demonstrable circulating autoantibodies that bind to different antigens in the basement membrane zone of skin and mucous membranes. Patients with OCP also have circulating antibodies that bind to some target antigen in the lamina lucida and the basal lamina of the conjunctival epithelial basement membrane zone, and immmunoblot analysis in our laboratory has indicated that the target for the circulating autoantibodies in the sera of patients with OCP is a unique 205-kDa protein. We have now further characterized this target autoantigen, studying the sera from patients with active OCP, and our results indicate that the target antigen in the patients with whom we studied is human (4-integrin (CD104).

Others have found another subset of patients with OCP who have circulating autoantibodies directed against epiligrin. This, as well as variable differences, patient to patient, in the immunoreactant (IgG, IgA, C3, etc.) deposited at the epithelial basement zone, as well as the inflammatory cell infiltrate characteristic differences suggest that OCP may be the clinical final common pathway to patients with a spectrum of autoimmune phenomena. We have, in additional experiments unrelated to this report, shown in vitro blister production in normal human conjunctiva exposed to the serum of our patients with active OCP containing autoantibody directed against (4 integrin.

For full details on the preparation of human skin and conjunctival lysates, the preparation of cell extracts, the immunoblot analysis, the immunoprecipitation of OCP and target antigen, the absorption studies, the screening of cDNA libraries from mRNA of human keratinocyte screened using cDNA insert, screening amplimers, and polymerase chain reaction amplification of clones producing a target antigen and subsequent DNA sequencing and identification of the target antigen has (4 integrin, the reader is referred to the publication entitled "Ocular Cicatricial Pemphigoid Antigen: Partial Sequence and Biochemical Characterization," published in the Proceedings of the National Academy of Science, Volume 93, 14714-14719, in December 1996.