

# This Week's Citation Classic

CC/NUMBER 26  
JUNE 25, 1979

Beutner E H, Jordon R E & Chorzelski T P. The immunopathology of pemphigus and bullous pemphigoid. *J. Invest. Dermatol.* 51:63-80, 1968.  
[State Univ. New York Sch. Med., Dept. Microbiology, Buffalo, NY]

**Pemphigus and pemphigoid are rare blistering diseases with mortality rates in untreated cases of 95% and 25% respectively. Both are associated with circulating IgG class autoantibodies to stratified epithelia. In pemphigus these antibodies react with a surface protein on epithelial cells, and in bullous pemphigoid they fix to the basement membrane, as seen by indirect immunofluorescence (IF) tests of sera on normal epithelia. Direct IF tests of patients' biopsies show that these antibodies react in vivo with normal skin and oral mucosa. [The SC<sup>®</sup> indicates that this paper has been cited over 145 times since 1968.]**

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February 7, 1978

"As a third generation researcher in the health sciences, it is clear to me that many well-based efforts fail. One of my grandparents worked with Robert Koch when he tried to treat tuberculous patients with old tuberculin. In fact, I think Koch was right, but all he succeeded in doing was to kill some people, mislead some devoted followers, and cast doubt on his reputation; all because he failed to quantitate. Also my father devoted his entire life to work on the physical chemistry of the biogenesis of electric currents in the heart, brain, and other tissue. Though I think he was right about much of what he wrote, he was

unable to convince physiologists of his time that the ambient theories on the sodium pump were in error.

"Added to this background is the contrast between the excitement of my first chief, Stuart Mudd, at the time he made me a charter member of the Society of Histochemistry and Cytochemistry almost 30 years ago, and the pathetic yield of useful information from this discipline to date, largely because of a lack of quantitation. To be successful, I think that we must either pick or help to create fields that are soundly based with a minimum of theories and a maximum of quantitation methods.

"Fortunately, Ernest Witebsky, my chief from 1956 to 1969, persuaded us of the folly of the use of IF methods as mere 'immunohistochemical' tools and the need for a quantitative serologic approach. When Bob Jordon and I first found the antibodies of pemphigus and pemphigoid in a summer project his father had suggested, we knew they were important but that the IF methods could not hold up under criticism. Accordingly, I spent most of 1965 to 1970 developing 'defined IF staining' methods. It paid off well. Defined IF staining is now used widely. With this technique, it has been possible to show, that pemphigus antibodies cause pemphigus, that IF tests are of value in diagnosis, and that psoriasis also involves autoimmunity.

"All three of us are now full professors and are carrying on fruitful studies in the field to this day. We offer summer courses, put out a second edition of *Immunopathology of the Skin*,<sup>1</sup> and run a small non-profit foundation (the ISIL) devoted to helping others to use defined IF methods."

1. Beutner E, Chorzelski T P & Bean S F, eds. *Immunopathology of (the skin)*. New York: Wiley, 1979. 496 p.