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PRACTICE GAPS

ELISA Instead of Indirect IF in Patients With BP

Charneux et al raise a practice gap regarding the appropriateness and effectiveness of ELISAs for confirming the initial diagnosis of BP, the most common autoimmune blistering skin disease. The diagnosis of BP is traditionally based on a combination of evi-

dence: tense bullae on normal-appearing skin or erythematous and urticarial plaques on clinical morphologic examination, subepidermal blister with eosinophil infiltration on histopathologic examination, linear IgG or C3 deposits along the epidermal basement membrane of per-

ilesional skin on direct immunofluorescence microscopy, and serum IgG autoantibodies binding to the epidermal side of artificially split skin through 1.0M sodium chloride on indirect IF microscopy.

The ELISA method for confirming the diagnosis of BP is a serum test, where the target antigens of autoantibodies from patients with BP are coated onto wells of a plastic plate, followed by incubation of diluted sera from the tested patients, and then followed by an enzyme-linked secondary antibody against human IgG. The subsequent addition of a substrate of the enzyme linked to the secondary antibody results in a color reaction if the tested patient's sera sample contains IgG autoantibodies specific to the target antigen. The intensity of the color reaction is proportional to the concentration of the IgG autoantibodies of the tested patient, thus providing a relative quantification of IgG autoantibodies. A positive ELISA result provides a stronger and more definitive confirmation than indirect IF. At Quest Diagnostics (Madison, New Jersey), ELISA for BP180 antibody (Code 16034X, \$65) is actually less expensive than IIF (Code 16690X, tested for both IgG and IgA antibodies against epithelial basement membrane, \$195).

The practice gap is that ELISA is underused by practicing dermatologists, even though many studies have consistently documented that ELISA is a more sensitive and specific laboratory test for confirming the diagnosis of BP than indirect IF.^{1,2} Several reasons may contribute to this underuse of ELISA. Some dermatologists may not be familiar with the utility of ELISA as a test option (knowledge gap). Still others may lack the knowledge of where to submit patient samples if not performed locally (competence gap). In addition, insurance restriction may hinder use (performance gap). Others may consider the combination of clinical features and histopathologic features and direct immunofluorescence microscopy and salt-split skin indirect IF findings to be suf-

ficient for the diagnosis of BP and view the ELISA as an academic exercise rather than a practical test. In fact, there is no consensus on diagnostic criteria for BP (research gap).

How can we narrow this practice gap? First, experts in the field should develop a consensus on the diagnostic criteria to guide practicing dermatologists. If the expert community does not consider the current evidence about the use of ELISA to be sufficient for inclusion in the diagnostic criteria, then recommendations should be made as to the direction of future research regarding ELISA. Second, once ELISA is determined to be a useful diagnostic test, practice dermatologists should be better informed on its effectiveness, cost, and availability of the test. Using peer-reviewed publication, continuing medical education, and communication efforts through specialty societies such as the American Academy of Dermatology could be an effective strategy. Finally, insurance companies should be informed of the scientific evidence and the cost-effectiveness to improve acceptance and coverage of ELISA.

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Archives Web Quiz Winner

Congratulations to the winner of our December quiz, Jianjun Qiao, MD, PhD, Department of Dermatology, The First Affiliated Hospital, College of Medicine, Zhejiang University, Hangzhou, China. The correct answer to our December challenge was *polycythemia vera*. For a complete discussion of this case, see the Off-Center Fold section in the January *Archives* (Prodanovic EM, Frater JL, Burkemper NM, Hurley MY. Pruritic indurated plaques on the legs of a 62-year-old woman. *Arch Dermatol.* 2010;147[1]:109-114).

Be sure to visit the *Archives of Dermatology* Web site (<http://www.archdermatol.com>) to try your hand at the interactive quiz. We invite visitors to make a diagnosis based on selected information from a case report or other feature scheduled to be published in the following month's print edition of the *Archives*. The first visitor to e-mail our Web editors with the correct answer will be recognized in the print journal and on our Web site and will also receive a free copy of *The Art of JAMA II*.