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Detection of circulating anti-skin antibodies by indirect immunofluorescence and by ELISA: a comparative systematic review and meta-analysis

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ABSTRACT **SUPPLEMENT** **REFERENCES**

RECOMMENDATIONS **Abstract**

Background

Both enzyme-linked immunosorbent assays (ELISAs) and indirect immunofluorescence (IIF) are available for the diagnosis of autoimmune bullous diseases (AIBD). Many studies have reported on the performance of ELISAs and concluded that ELISAs could replace IIF. This study compares the diagnostic accuracy of ELISA and IIF for the detection of autoantibodies to desmoglein 1 (DSG1), desmoglein 3 (DSG3), bullous pemphigoid antigen 2 (BP180) and bullous pemphigoid antigen 1

(BP230) to support the diagnosis of pemphigus vulgaris (PV), pemphigus foliaceus (PF) and bullous pemphigoid (BP).

Methods

A literature search was performed in the PubMed database. The meta-analysis was performed using summary values and a bivariate random effect model.

Results

The five included studies on PV did not demonstrate significant differences between IIF and DSG3-ELISA (sensitivity 82.3% vs. 81.6%, $p = 0.9284$; specificity 95.6% vs. 93.9%, $p = 0.5318$; diagnostic odds ratio [DOR] 101.60 vs. 67.760, $p = 0.6206$). The three included studies on PF did not demonstrate significant differences between IIF and DSG1-ELISA (sensitivity 80.6% vs. 83.1%, $p = 0.8501$; specificity 97.5% vs. 93.9%, $p = 0.3614$; DOR 160.72 vs. 75.615, $p = 0.5381$). The eight included studies on BP showed that BP230-ELISA differed significantly from both IIF on monkey esophagus (MO) and BP180-ELISA with regard to DOR (11.384 vs. 68.349, $p = 0.0008$; 11.384 vs. 41.699, $p = 0.0125$, respectively)

Conclusions

Our meta-analysis shows that ELISA performs as well as IIF for diagnosing PV, PF and BP.

Keywords: [autoimmune bullous diseases](#); [ELISA](#); [IIF](#); [pemphigus](#); [pemphigoid](#)

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