Validation of antigen buffer detection (ABD pad) immucor Neo: comparison with tube method for ABO and rhesus grouping at Transfusion Medicine Unit, Department of Pathology, Hospital Shah Alam

Azad Eryani Mohd Adam, Iffah Hazirah Muzli, Sieh Lih Wen

Department of Pathology, Hospital Shah Alam, Selangor, Malaysia

ABSTRACT

Introduction: The ABO group and Rhesus typing is determined by testing the red cells with anti-A, Anti-B and Anti-D reagent (forward group). This is confirmed with the patient's serum using known A, B, and O cells (reverse group). The tests are interpreted based on antigen-antibody reaction by the presence of red cell agglutination. The resolution of this blood can be identified through various platform including slide, tube, column agglutination and automation. Determination of blood groups should be reported correctly and is crucial in transfusion medicine to ensure compatibility between the donor's and recipient's blood, preventing potentially life-threatening reactions. **Materials and Methods:** ABO blood grouping was performed from 100 blood donor segments preserved from SAG-M tube. ABD pad Immucor Neo, using the Micro Titre Plate (MTP) technique were compared with tube platform. The results interpreted immediately and documented. **Results:** Total of 101 blood donor segments performed and all were concordance. The results of ABD pad were faster (less than 30 seconds) and the findings were easily interpreted. The ABD pad is an advanced tool used for blood grouping, offering several advantages over traditional methods like the slide method. The key benefits of using an ABD pad for blood grouping includes provide more reliable and accurate results, reduced risk of cross-contamination, portable and convenient, would produce fast, easy and standardized approach to blood grouping and eventually produced clear and defined results. While the ABD pad offers several advantages for blood grouping, it also has some disadvantages and limitations including, cost where it generally more expensive and sensitivity to storage condition such as temperature and humidity control, to maintain their effectiveness. **Conclusion:** The validation of ABD pad in ABO and Rhesus blood grouping outcome shows good outcome results where the interpretations were faster and easily interpreted however cost effectiveness and storage would create limitation of usage.