



The aim of this study was to assess the feasibility of ABO and D typing and red blood cell alloantibody screening in marrow (BM) samples” Bäckman et al (2018).

Abstract

BACKGROUND: Blood transfusion through the intraosseous route is gaining popularity in emergency medicine. Pretransfusion peripheral blood (PB) samples are usually not available in these patients, leading to discrepancies in blood group typing and a possible delay in transferring to group-specific blood products. The aim of this study was to assess the feasibility of ABO and D typing and red blood cell alloantibody screening in marrow (BM) samples.

STUDY DESIGN AND METHODS: Direct and reverse ABO typing, D typing, and a two-cell alloantibody screen were performed in EDTA-anticoagulated BM samples with standard manual column agglutination techniques. EDTA-anticoagulated PB samples were used as controls.

RESULTS: The mean age of the study subjects (n = 71) was 47 years (range, 1-82 years). All ABO groups and both D+ and D- types were represented. In all subjects, concordant results were observed for all analyses in BM and PB samples. In 15 (21%) of the samples, a discrepancy of one reaction strength step (1+) was observed in at least one of the analyses (Cohen’s weighted $\kappa = 0.993$); this did not affect interpretation of the results.

CONCLUSION: Blood group typing and alloantibody screening are feasible in BM samples, providing proof-of-concept that intraosseous samples for blood group serologic analyses can be collected from emergency patients before intraosseous blood transfusion. This will enable a timely transfer to group-specific blood products and enable conservation of the valuable universal-donor blood products.

Reference:

Bäckman, S., Ångerman-Haasmaa, S., Jousi, M., Siitonen, S. and Salmela, K. (2018) ABO and D typing and alloantibody screening in marrow samples: relevance to intraosseous blood transfusion. *Transfusion*. March 1st. .

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