
Ishwar Bihana, Joseph, Varun Uppal, Sudershan Kumar Sharma, Prashant Sharma, Narender Kumar, Neelam Varma.
Department of Hematology, PGIMER, Chandigarh -160012(INDIA)

Introduction
• Accurate platelet counts are essential in clinical settings as in cases of low platelet counts in some cases it may be the difference of 5000 or even less is significant.
• Technologies have evolved from manual microscopy through automated analyzers to flowcytometric methods.
• Phase-contrast microscopy, the former gold standard is now replaced by immunological flowcytometric RBC/platelet ratios.
• However, it remains a useful and economical, though labour-intensive laboratory technique.

Objective
• To compare the platelet count by automated analyser with manual method like phase contrast microscopy and blood smear examination.
• To find out level of accuracy between these automated analyzers.

Material & Methods
• One hundred (100) random K3-EDTA blood samples were run within 6 hours of collection on three automated hematometry analyzers: Beckman Coulter LH750, Sysmex SF-3000 and Horiba ABX-Pentra 120.
• Phase-contrast microscopy was performed on all specimens diluting in 1% Ammonium oxalate and blood smear examination was carried out in cases with low platelet counts by any of the techniques.

Results
• Close correlation was observed between the automated counts from all three analyzers (correlation coefficient, r>0.9) as well as a reasonable correlation with the manual count (r=0.6) (Fig. 1)

Discussion & Conclusion
• Modern hematology autoanalyzers yield excellent inter-instrument reproducibility for the platelet count with convenience and counts are time saving.
• The presence of clinically significant differences between the manual and the automated counts in 7.8% of our cases necessitates the maintenance of technical skills for the manual phase-contrast platelet count in our set-up.

Further reading: