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ORIGINAL PAPER

**Evaluation of the analytical performances of a portable, 18-parameter hemometric system using capillary blood samples for blood donor enrolment**

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**KEYWORDS**

blood donations • capillary blood counts • portable blood cell analyzer

**ABSTRACT**

**Background and Objectives** Blood donor enrolment process is frequently based on the sole capillary haemoglobin (Hb) evaluation while platelet donors by apheresis also requires platelet (Plt) count. The 'sole Hb' approach prevents a complete donor evaluation and does not allow Plt donor enrolment. To extend blood counts before donations, we evaluated the performances of a multiparametric counter using capillary blood.

**Materials and Methods** The ABX Micros 60 (Micros 60) blood analyzer was employed on capillary blood and compared with venous counts by a reference counter (Coulter AcT 5diff) in a first series of 416 donors and in a second series of 136, after a 3-month period of routine use of this study counter. An average of 50 µl of capillary blood was collected whose 10 µl had been aspirated by Micros 60.

**Results** High correlations were found between capillary counts using Micros 60 and venous counts using the reference counter. Mean Plt counts differed of  $37 \times 10^9/l$  less for capillary approach in the first series of comparisons, but decreased to  $10 \times 10^9/l$  less in the second series due to a greater expertise of operators in capillary sampling. All other parameters were accurate and never reached clinical relevance albeit they showed statistically significant differences.

**Conclusion** Data on Micros 60 demonstrated that capillary predonation counts may represent a feasible and effective approach to realize an accurate enrolment process of blood and Plt donors.

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