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## **Evaluation of immature granulocyte counts by the XE-IG master: upgraded software for the XE-2100 automated hematology analyzer**

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We evaluated an automated immature granulocyte (IG) count in the peripheral blood with the XE-IG Master (Sysmex Corporation). The XE-IG Master is the upgraded software package for the XE-2100 automated hematology analyzer. Reproducibility tests demonstrated a mean coefficient of variation of 7.02% for the IG percentage (IG%) and 6.93% for the absolute IG count. Correlations of the IG counts were assessed in two ways. A flow cytometric IG count using CD11b, CD16, and CD45 monoclonal antibodies and a manual differential count were used as reference methods. The regression equation and the correlation coefficient of the IG% for the flow cytometric reference count versus results with the XE-IG Master were:  $y = 0.91x + 0.10$ ;  $r = 0.96$ . For the comparison with the manual differential count of promyelocytes, myelocytes, and metamyelocytes, the regression equation and correlation coefficient were:  $y = 0.81x + 1.27$ ;  $r = 0.78$ . Samples were found to be stable up to 48 hours both at room temperature and when refrigerated. We investigated the clinical significance of the IG count as a new marker of acute inflammation. In this preliminary study, most samples with a high IG count had positive values for C-reactive protein and the erythrocyte sedimentation rate (positive sample rates were 84.0% and 95.0%, respectively) despite neutrophil counts within the normal range. Elevated IG counts correlated most closely with CD64 expression on polymorphonuclear cells and less so with the concentration of interleukin 6. Compared with other available inflammation markers, the IG count is rapidly generated with each full blood count at no extra cost and with no delay in sample analysis