DIAGNOSTIC SERVICES OF MANITOBA

DSM Analyzer Replacement Project Bulletin

New Clinical Parameters for Hematology Analyzer at HSC (May 01, 2012) and SBH (May 02, 2012)

Why the Change: To upgrade old analyzers and software to offer new features that will facilitate auto-verification of results, improving turn around time, and are able to provide a new comprehensive blood count.

What is New: It now provides a 6-part automated differential and three additional clinical parameters, Immature Platelet Fraction (IPF), Reticulocyte Hemoglobin (RET-He) and Immature Reticulocyte Fraction (IRF). The new tests are available as rapidly as the traditional CBC and require no additional blood.

6-Part Differential: The automated differential, which is performed using fluorescent flow cytometry, now includes **Immature Granulocytes (IG).**

The Sysmex XE-Series analyzer can provide precise and accurate enumeration of immature granulocytes. The IG count (% and absolute #) includes metamyelocytes, myelocytes, and promyelocytes. Comparison testing in our laboratory showed excellent correlation to the manual differential. An IG count of > 2% will automatically trigger a manual slide review.

Preliminary studies have indicated that the automated IG count shows promise as an early screen for sepsis or infection[1]. The ability to provide a more accurate and precise automated immature granulocyte count without performing a manual differential will decrease turn-around-times to provide results sooner.

Immature Platelet Fraction (IPF):
Reticulated platelets is a measure of Immature Platelets. The Immature Platelet Fraction is an index of thrombopoiesis and can help to determine the mechanism of thrombocytopenia.

An increased IPF in the presence of thrombocytopenia is indicative of a platelet destruction or consumption. Values at or below this range in combination with thrombocytopenia are indicative of decreased marrow production.

Reticulocyte Hemoglobin (RET-He): "The measurement of reticulocyte hemoglobin content is a direct assessment of the incorporation of iron into erythrocyte hemoglobin and thus a direct estimate of the functional availability of iron into the erythron.[3]" RET-He is a reliable marker of cellular hemoglobin content.

A value below this range is indicative of a decreased amount of iron in the RBC or iron deficiency.

The new parameters related to reticulocytes will be reported in association with the reticulocyte count. The IPF will be reported if instrument platelet measurements deviate from expected platelet characteristics.

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