New Sysmex Analyzer Provides the Expansion of the Differential to Include the Immature Granulocyte Parameters

During November and December 2019 Providence Rapid Response Laboratories will be going live with a new Hematology platform, the Sysmex XN-series. The table below lists the exact go-live dates. The automated CBC report will be provided as a 6 part automated differential. The new parameter being reported in the automated differential is the Immature Granulocyte (IG) Percent and IG Absolute Count IG#.

The IG parameter provides a total enumeration of the presence of left-shifted granulocytes including: metamyelocytes, myelocytes, and promyelocytes, but does not equal blasts or immature monocytes in a patient sample. The appearance of immature granulocytes in the peripheral blood of non-pregnant individuals can indicate a response to infections, inflammation, or other stimulus to the bone marrow. Occasionally, persistent increase in IG may be part of myeloid neoplastic process.

The automated IG% and IG# results are generated utilizing fluorescent flow cytometry in the WDF channel of the Sysmex XN-Series analyzers. It is a reportable parameter that extends the WBC differential from a 5-part to a 6-part differential. This process allows for the laboratory to accurately determine the total number of the Immature Granulocytes from an automated method, rather than the traditional manual differential methodology.

Automated IG enumeration offers clinicians a more standardized, consistent, accurate and reproducible result than an immature granulocyte count generated by a 100 cell manual differential. If your hospital’s definition of a left shift includes the presence of immature myeloid cells such as metamyelocytes, myelocytes and promyelocytes, then the automated IG count can indicate that of a left shift. The Surviving Sepsis Campaign Guidelines now include a “normal WBC count with greater than 10% immature forms” as one of the diagnostic criteria for sepsis. The automated IG count, when used in conjunction with other measures of the inflammatory process, clinical signs and symptoms, can be a useful tool to clinicians, if included as part of their infection surveillance programs.

The automated IG count has been proven to be equivalent or superior to the enumeration of metamyelocytes, myelocytes and promyelocytes on the manual differential. Action taken by the laboratory or the clinician should be the same as when immature myeloid forms are seen on the manual differential. The peripheral blood smears with IG>5% will be manually reviewed by lab personnel and/or pathologists. As always, clinical action should also take into consideration the patient’s clinical signs and symptoms to determine proper treatment plans.

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Recommended Reading:


References:


For additional information, contact Providence Regional Laboratory Services at (503)215-6660

November, 2019