

Assessment of an immature platelet fraction (IPF) in peripheral thrombocytopenia.

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A new automated method to reliably quantify reticulated platelets, expressed as the immature platelet fraction (IPF), has been developed utilizing the XE-2100 blood cell counter with upgraded software (Sysmex, Kobe, Japan). The IPF is identified by flow cytometry techniques and the use of a nucleic acid specific dye in the reticulocyte/optical platelet channel. The clinical utility of this parameter was established in the laboratory diagnosis of thrombocytopenia due to increased peripheral platelet destruction, particularly autoimmune thrombocytopenic purpura (AITP) and thrombotic thrombocytopenic purpura (TTP). Reproducibility and stability results over 48 h were good. An IPF reference range in healthy individuals was established as 1.1-6.1%, with a mean of 3.4%. Patients in whom platelet destruction might be abnormal, were studied and two of these patients followed serially during the course of treatment. The IPF was raised in several disease states. The most significant increases in IPF values were found in patients with AITP (mean 22.3%, range 9.2-33.1%) and acute TTP (mean 17.2%, range 11.2-30.9%). Following patients during treatment demonstrated that as the platelet count recovered the IPF% fell. These results show that a rapid, inexpensive automated method for measuring the IPF% is feasible and should become a standard parameter in evaluating the thrombocytopenic patient.

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