

Thromb Res. 2006;118(4):463-9

A simple technique to determine thrombopoiesis level using immature platelet fraction (IPF)

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Immature platelet fraction (IPF) has been measured by fully automated analyzer (XE-2100) as reticulated platelet (RP) which is reflected with thrombopoiesis in bone marrow. IPF value in the healthy volunteers was 3.3% (1.0-10.3) and upper 95% confidential interval (95% CI) of IPF was determined as 7.7%. IPF was significantly high in the patients with idiopathic thrombocytopenic purpura (ITP; 17.4%, 1.2-53.2%) and recovery phase of post-chemotherapy, and significantly low in nadir phase of post-chemotherapy, and within normal range in the patients with ITP in complete remission (CR) and with aplastic anemia (AA). Total count of IPF was significantly low in patients with ITP, AA or post-chemotherapy. Mean platelet volume (MPV) was significantly high in only patients with ITP. IPF 7.7% is best point for highest sensitivity (86.8%) and specificity (92.6%) in diagnosis of ITP and recovery phase of post-chemotherapy. In receiver operating characteristic curve for diagnosis of ITP and recovery phase of post-chemotherapy, IPF was significantly more useful than MPV. These results show that IPF reflects the pathology of thrombocytopenic disorders, and that measurement of IPF is useful for the differential diagnosis and analysis of platelet kinetics.

PMID: 16253312 [PubMed - indexed for MEDLINE]