MetaPress

The new reticulocyte parameter (RET-Y) of the Sysmex XE 2100: its use in the diagnosis and monitoring of posttreatment sideropenic anemia.

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To verify their clinical usefulness in diagnosis and early response to therapy of sideropenic anemia, we compared the behavior of the reticulocyte parameter (RET-Y), a raw measure dependent on size and content of the cell, generated by the Sysmex XE 2100, with the mean reticulocyte volume (MCVr) and mean reticulocyte hemoglobin content (CHr) from the Bayer ADVIA 120 in healthy subjects and patients with iron deficiency anemia. Correlations were high ($r = 0.88$ and $r = 0.94$, respectively). All parameters varied significantly as early as 48 hours after the start of intravenous iron therapy (mean differences of 17.4% [RET-Y], 4.5% [MCVr], and 9.5% [CHr]). Sudden decreases in those parameters at interruption of therapy indicate the reappearance of sideropenic erythropoiesis. The receiver operating characteristic curve demonstrated a high degree of efficiency in differentiating moderate or severe iron deficiency anemia from the healthy state. The best association between sensitivity and specificity was at a cutoff of channel 1,624 for RET-Y and 104.5 fL for MCVr (negative and positive predictive values, respectively, of 99.6% and 96.5% for RET-Y and 98.7% and 93.3% for MCVr). RET-Y is correlated closely with CHr and is useful for diagnosis and early monitoring after the administration of intravenous iron.