

[Clin Lab Haematol.](#) 2004 Dec;26(6):423-7.

Comment in:

?? [Clin Lab Haematol.](#) 2005 Aug;27(4):286.

**Ret-Y a measure of reticulocyte size: a sensitive indicator of iron deficiency anemia.**

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In this study the size of reticulocytes was measured, reticulocyte-Y (Ret-Y), to distinguish iron deficiency anemia from the anemia of chronic disease using a Sysmex XE2100 cell counter. We evaluated this parameter prospectively in 100 patients seen for the evaluation of anemia. A clinical diagnosis of iron deficiency anemia or anemia of chronic disease was made on the basis of a complete blood count, examination of the peripheral smear, and serum ferritin along with a history and physical examination. We analyzed the sensitivity and specificity of the Ret-Y in relationship to the clinical diagnosis. We also measured serum transferrin receptor levels to use as the gold standard laboratory test for iron deficiency against which we compared the Ret-Y. In 40 normal individuals with normal serum ferritin and transferrin receptor levels the mean Ret-Y was 1874 +/- 178 (1 SD). The mean Ret-Y in the anemia of chronic disease group (n=62) was 1722 +/- 162, not significantly different from normal. The mean Ret-Y value among iron-deficient patients (n=38), was 1407 +/- 136 (P <0.01 vs. the anemia of chronic disease group's Ret-Y value). Receiver operator curves showed that Ret-Y correlated closely to the serum transferrin receptor and was superior to the mean corpuscular volume, and ferritin level, in differentiating the type of anemia. The Ret-Y parameter has the highest overall sensitivity and specificity of the panel of tests routinely used in differentiating iron deficiency anemia from anemia of chronic disease.

PMID: 15596002 [PubMed - indexed for MEDLINE]