

## Phenotypic analysis of bone marrow lymphocytes from children with acute thrombocytopenic purpura

**Dalai E L Guiziry<sup>1</sup>, Gendy Wessam El, Nahla Farahat, Hoda Hassab**

Department of Clinical Pathology, Alexandria University, Alexandria, Egypt.

PMID: 16734134

Hematogones are benign immature B cells that commonly populate the bone marrow of children. Their presence has been noted to interfere with the flow-cytometric analysis of acute lymphoblastic leukemia (ALL), because their immunophenotype is similar to B-precursor cell lymphoblasts. Immune-mediated thrombocytopenia is a clinical condition characterized by increased platelet destruction due to sensitization of platelets by autoantibodies. The aim of this study was to determine the incidence and clinical impact of bone marrow hematogones in cases of acute immune thrombocytopenic purpura (ITP) among children. This was done by immunophenotyping of bone marrow lymphocytes of ITP cases and controls and follow up of cases. This study was done on 25 cases of ITP, 12 females and 13 males, their age ranged from 2 to 13 years. A control group was included in the study, 15 cases of apparently healthy children with matching age and sex taken from among bone marrow donors. Cases and controls were subjected to bone marrow lymphocyte immunophenotyping with flow-cytometry to verify the presence of hematogones. A statistically significant increase in the percentage of hematogones was demonstrated in their bone marrows. An increased percentage of CD10+ lymphocytes was demonstrated; with a mean of 18+/-15.2%, CD19+ with a mean of 27+/-16.3% and CD34+ with a mean of 3.7+/-3.2%. No correlation was found between the percentage of hematogones and peripheral platelet count or bone marrow lymphocytic count. In conclusion, there is an increase in the bone marrow hematogones in ITP cases in comparison to normal controls. This could be the sequence of an immunological response to the cause which determined the disease, or the regeneration of the stem cell compartment following transient damage.