

Hematological Parameters and Elements Level in three Different Groups of Thalassemia Major

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Objective: To follow up the changes in red blood indices and elements level of children with thalassemia in major in the Northwest region of Saudi Arabia.

Design: Prospective case control study.

Methods: A total of 112 children (both genders) aged between newborn to 14 years including controls were studied. Blood samples were collected and the following indices were analyzed: RBC, Hb, HCT, MCV, MCH, MCHC, PLT, and RDW. The study also included some elements analysis from serum by Spectrophotometer.

Results: Sixty-eight children's with thalassemia (43 males, 63% and 25 females, 37%) were divided into three groups. Group A of 13 children from newborn to 2 years, Group B totals 19 from 3 to 8 years and group C of 36 children aged from 9 to 14 years. The result showed that there is no significant difference in blood count parameters between the three patients group except Hb concentration in the third group, where it was lower than the other groups. The platelet concentration in the third group was also found to be higher than the other two groups. Analysis of metal ions results showed no significant differences for serum Ca^{2+} , Pi and Mg. Interestingly our data showed a lowered concentration of Zn^{2+} with increasing age.

Conclusion: This study demonstrated a lower Hb for older group "C" due to hypersplenism and lower platelets in the splenectomized patients. Lower concentration of Zn^{2+} with age is perhaps due to the chelation therapy, a finding that suggests the use of zinc supplement to prevent the zinc insufficiency long term effects.

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