

and insulin resistance is one of the major endocrine problems in major thalassemia patients. This study was done to evaluate the association of serum γ -interferon and IL-10 concentrations with insulin resistance in splenectomized and non-splenectomized major thalassemia patients.

Methods: 193 thalassemia patients with range of years old participated in this study. IFN- γ and IL-10 levels were measured using ELISA method. Insulin resistance was measured using HOMA-IR method. Data was analyzed with SPSS software by Pair T test.

Results: the mean age of splenectomized patients in this study was 8.86 ± 7.03 and non-splenectomized patients 7.88 ± 2.39 years. There were significant and inverse associations between serum IL-10 levels and insulin resistance was found in non-splenectomized major thalassemia patients ($P=0.002$). There were not a significant association between serum IL-10 levels and insulin resistance in splenectomized major thalassemia patients ($P=0.079$). There were not a significant association between serum γ -interferon levels and insulin resistance in splenectomized major thalassemia patients ($P=0.778$). There were not significant associations between serum γ -interferon levels and insulin resistance in non-splenectomized major thalassemia patients ($P=0.435$).

Conclusion: In this study, interferon-gamma as an inflammatory cytokine and interleukin-10 as an anti-inflammatory cytokines was studied. Overall these results suggest that interleukin-10 is associated with insulin resistance in non-splenectomized major thalassemia patients and as an anti-inflammatory cytokine may play an important role in sustaining insulin resistance in non-splenectomized major thalassemia patients. With increase in serum IL-10 levels there is a decline in insulin resistance. This data provide new insights into the mechanisms of insulin resistance and support the use of other cytokines with insulin resistance in major thalassemia patients.

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ASSOCIATION OF SERUM GAMMA- INTERFERON AND IL-10 CONCENTRATIONS WITH INSULIN RESISTANCE IN MAJOR THALASSEMIA PATIENTS

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Background and aims: Thalassemia is one of the most prevalent hematologic disorders worldwide. Thalassemia is the most common inherited anemia and genetic disease. Diabetes mellitus