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Abnormal glucose tolerance in transfusion dependent β -thalassemic patients

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Abstract. This study was conducted on 112 patients with B-thalassemia major (58 males and 54 females), attending Thalassemia Center at Basrah Maternity and Children Hospital over 6 months, their age ranged from 5-16 years. Oral glucose tolerance test was carried out for all thalassemic patients included in this work. The study has revealed that 10 patients (8.9%) were found to have impaired glucose tolerance and 7 patients (6.25%) with diabetes mellitus. Patients with abnormal glucose tolerance started blood transfusion at younger age compared to normal glucose tolerance group (11.17 ± 4.4 and 16.67 ± 7.92 months respectively), $P < 0.05$. However, thalassemic patients with abnormal glucose tolerance started iron chelation therapy at higher age than those with normal tolerance (5.5 ± 2.6 and 4.1 ± 3.8 years respectively), $P < 0.05$. The percent of patients with good compliance to chelation therapy was significantly higher in normal glucose tolerance group compared to those with abnormal glucose tolerance (78.9% and 29.04% respectively), $P < 0.001$. Family history of diabetes mellitus was found in 29.4% of thalassemic patients with abnormal glucose tolerance, and 5.3% with normal glucose tolerance, $P < 0.001$. In addition, iron overload and hepatitis C virus infection were detected in a significantly higher percent of patients with abnormal glucose tolerance compared to normal glucose tolerance group, $P < 0.001$ and 0.05 respectively. After adjustment of the confounding factors by stepwise logistic regression analysis, the mean age at first blood transfusion, compliance with chelation therapy, family history of diabetes mellitus, serum iron and percent of saturation were identified as independent risk factors for impaired glucose tolerance and diabetes mellitus in B-thalassemia major

Key Words: B-thalassemia major • diabetes mellitus • impaired glucose tolerance • abnormal glucose tolerance • oral glucose tolerance test

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