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Evaluation of Glucose-6-Phosphate Dehydrogenase Deficiency without Hemolysis in Icteric Newborns

Farzaneh Eghbalian; Ali Reza Monsef

Abstract:

Objective: Glucose-6- phosphate dehydrogenase (G6PD) deficiency is an inherited deficiency that may be the cause of neonatal jaundice. Our aim was to study the prevalence of G6PD deficiency without hemolysis in relation to neonatal jaundice. Material & Methods: This prospective descriptive study has been conducted on 272 icteric newborns admitted to the Ekbatan Hospital from October 2002 to September 2004. The dataset included: age, sex, total and direct bilirubin, hemoglobin, reticulocyte count, blood group and Rh of mother and newborn, direct Coombs, G6PD level and the type of treatment. All data was analyzed by using statistical method. Findings: From 272 neonates, 12 neonates (4.4%) were found to have G6PD deficiency. The male to female ratio was 5 to 1 (10 male and 2 female neonates). From 12 neonates with G6PD deficiency, hemolysis was seen in 5 neonates (41.7%) and the rate of G6PD deficiency without hemolysis was 2.6%. There was no difference in the mean bilirubin level, hemoglobin level and also reticulocyte count between patients with G6PD deficiency and those without G6PD deficiency (p>0.05). Out of 12 patients with G6PD deficiency, 2 patients (16.7%) had blood exchange transfusion. Rh and ABO incompatibility were not seen in any of the12 patients with G6PD deficiency. Conclusion: In this study the prevalence of G6PD deficiency in icteric newborns was considerably high and most of them were non hemolytic, so we recommend G6PD test as a screening program for every newborn at the time of delivery.

Keywords:

Glucose-6- phosphate dehydrogenase deficiency ، Enzyme Deficiency

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