ISSN 0972-3757
International Journal of
HUMAN GENETICS

PRINT: ISSN 0972-3757 ONLINE: 2456-6360
Int J Hum Genet, 13(3): 139-143 (2013)
DOI: 10.31901/24566330.2013/13.03.02

Prevalence of Three Common Glucose-6-Phosphate Dehydrogenase Gene Mutations in Neonates in Province of Mazandaran, North of Iran, 2012

Mohammad Reza Mahdavi[1], Mehrnoush Kosaryan[1], Payam Roshan[2], Hosein Karami[1] and Hossein Jalali[2]

[1]Thalassemia Research Center, Mazandaran University of Medical Sciences, Sari, Iran
[2]Fajr Medical Laboratory, Sari, Iran

KEYWORDS G6PD Enzyme Deficiency. Mediterranean Mutation. Chatham Mutation. Cosenza Mutation

ABSTRACT In northern provinces of Iran high rates of incidence of glucose-6-phosphate dehydrogenase (G6PD) enzyme deficiency have been reported and most of these patients carry one of the three common G6PD gene mutations: Mediterranean, Chatham or Cosenza. The aim of this study was to investigate prevalence of each of these mutations among neonates in Mazandaran, a northern province of Iran. Four hundred and twelve blood samples were collected and using standard protocols DNA was extracted. In order to detect the above mutations PCR-RFLP method was applied. Fifty- three of neonates had G6PD gene mutation (12.9%, CI 95%: 9.66-16.14). About 17% of female and 9% of male newborns were carriers for one of the three common G6PD gene mutations. The Mediterranean type had the highest gene frequency (0.0607) among the three examined mutations. The present study shows around 17% (CI 95%: 11.97-22.03) of Mazandarani female population is carrier for one of the three mutations and since the likelihood of having an affected child in a carrier woman is 1 in every 4 child births, the researchers recommended all women to be screened for the presence of three common G6PD gene mutations prior to pregnancy.