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Short Communication

Prevalence and Molecular Identification of Mediterranean Glucose-6-Phosphate Dehydrogenase Deficiency in Khuzestan Province, Iran

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Abstract:

Background: Glucose-6-phosphate dehydrogenase (G6PD) deficiency is the most frequent genetic enzymatic disorder in human, which is inherited as an X-linked gene. It encodes a housekeeping enzyme, which is vital for cell survival. According to previous investigations, Mediterranean mutation (C563T) of *g6pd* gene is the most prevalent mutation in some provinces of Iran and neighboring countries. We aimed to study the Mediterranean mutation of g6pd gene in Khuzestan province of Iran.

Methods: A total of 1064 randomly selected male blood samples were selected in Ahvaz, Khuzestan Province, in 2008 and screened for G6PD deficiency using fluorescent spot test method. In order to determine the frequency of G6PD Mediterranean variant, 144 G6PD deficient samples were analyzed by PCR-RFLP method.

Results: Eighty-one out of 1064 random selected screened samples were G6PD deficient, so a 7.6% frequency was obtained for G6PD deficiency. In addition, 105 out of 144 collected deficient samples had Mediterranean mutation that resulted in a 72.91% allel frequency.

Conclusion: Corresponding to other investigations in Middle East countries and some provinces of Iran, we found that the Mediterranean mutation of *g6pd* gene was the most prevalent variant and G6PD deficiency occurred in a high frequency.

Keywords:

G6PD deficiency ، *Mediterranean mutation* ، *Iran*

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