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Acta Medica Iranica
2009;47(4) : 1-18

Review Article

Glucose-6-phosphate dehydrogenase (G6PD) Deficiency

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Received: April 28,2008
Accept : December 3,2008
Available online: December 27,2008

Abstract:

Glucose-6-phosphate dehydrogenase (G6PD) Deficiency is the most prevalent enzymopathy in mankind. It has sex-linked inheritance. This enzyme exists in all cells. G6PD deficiency increases the sensitivity of red blood cells to oxidative damage. G6PD deficiency was discovered in 1950 when some people suffered hemolytic anemia as a result of taking antimalarial drugs (primaquin). Most people with G6PD deficiency do not have any symptoms, till they are exposed to certain medications, *Fava beans* and infections; and then their red blood cells are hemolyzed. The degree of hemolysis changes according to the degree of enzyme deficiency and the oxidant agent exposure. G6PD deficiency has many different variants and Mediterranean variant is the most common mutation in the world. G6PD deficiency is considered a health problem worldwide, especially in Asia, Middle East and Mediterranean countries. In this article, we have reviewed the importance and function of G6PD enzyme, incidence rate of G6PD deficiency in the world and Iran, genetic and variants of this enzyme, clinical manifestation, diagnosis and treatment of the enzyme deficiency.

Keywords:

G6PD ، Oxidative damage ، Sex-linked inheritance ، Hemolytic anemia ، Mediterranean variant

TUMS ID: 12366

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