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Lipid peroxidation and antioxidant capacity of G6PD-deficient patients with A-(202G>A) mutation

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ABSTRACT. Glucose-6-phosphate dehydrogenase (G6PD) deficiency is an enzymopathy in which reduced NADPH concentrations are not maintained, resulting in oxidative damage. We evaluated G6PD activity, oxidative stress levels and Trolox equivalent antioxidant capacity in individuals with the A-(202G>A) mutation for G6PD deficiency. Five hundred and forty-four peripheral blood samples were screened for G6PD deficiency; we also analyzed lipid peroxidation products measured as thiobarbituric acid reactive species and Trolox equivalent antioxidant capacity. Men with the A-(202G>A) mutation

had lower G6PD activity than women with the same mutation. Individuals with the A-(202G>A) mutation also differed in mean Trolox equivalent antioxidant capacity values but not for thiobarbituric acid reactive species values. We concluded that A-(202G>A) mutation is associated with reduced G6PD activity and increased Trolox equivalent antioxidant capacity.

Key words: G6PD deficiency; TBARS; TEAC; Oxidative stress

