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Evaluation of antioxidant status in Streptozotocin-induced diabetic rats by Ferric reducing ability of plasma assay

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Abstract:

Enhanced oxidative stress in diabetes mellitus may contribute to the pathogenesis of diabetic complications. In this article, the stress oxidative generation has been studied in experimental diabetes by ferric reducing ability of plasma assay, a sensitive and simple method, and by other oxidative damage markers. The ferric reducing ability of plasma values as a total antioxidant capacity were significantly decreased at the 3th 4th weeks of study ($P < 0.02$), while the thiobarbituric acid reacting substances (TBARS) levels in plasma were increased at the 3rd and the 4th weeks ($P < 0.05$). The plasma carbonyl groups (PCG) were not affected, and total thiol groups (TG) were significantly decreased at the 4th week ($P < 0.02$). In conclusion the present study suggests that hyperglycemia in diabetes leads to oxidative stress, as shown by ferric reducing ability of plasma assay. This method is rapid, simple and economic

Keywords:

Antioxidants , FRAP , TBARS , PCG , TG

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