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Ameliorative effects of cinnamic acid on diabetes induced oxidative stress

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Diabetes mellitus (DM) is one of the major health problem worldwide. 2.8% of world population suffer from diabetes and it is concluded that it may cross 5.4% by the year of 2025. Cinnamic acid (3-phenyl-2-propenoic acid, CA, Figure 1), a major component of Chinese herb cinnamon. It was shown that they exert cytoprotective, antigenotoxic and antioxidant effects in *in vitro* and anti-tumor activities in experimental animal models. The aim of this study was to evaluate the ameliorative effects of CA on diabetes induced oxidative damage in the blood, liver and kidney cells of rats. Diabetes was induced by streptozotocin (STZ). The oxidative stress parameters such as superoxide dismutase (SOD), catalase (CAT), glutathione reductase (GR), glutathione S-transferase (GST) and glutathione peroxidase (GSH-Px) activities and total glutathione (GSH) and malondialdehyde (MDA) levels in the plasma, liver and kidney tissues were measured spectrophotometrically using kits following the manufacturer's procedures. The CAT, SOD, GSH-Px, GST enzyme activities and GSH levels were found to be significantly lower in the diabetic group.

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