EFFECTS OF \(\alpha\)-KETOGLUTARATE ON LIPID PEROXIDATION AND ANTIOXIDANT STATUS DURING CHRONIC ETHANOL ADMINISTRATION IN WISTAR RATS

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Effects of \(\alpha\)-ketoglutarate on ethanol-induced hepatotoxicity were studied in biochemical experiments in rats. The levels of serum transaminases and thiobarbituric acid reactive substances were significantly increased in ethanol-treated rats. These levels were significantly decreased in \(\alpha\)-KG- and ethanol-treated rats. Further, non-enzymatic (vitamins C and E) and enzymatic (superoxide dismutase and catalase) antioxidants were significantly decreased in ethanol-treated rats, and were increased in \(\alpha\)-KG- and ethanol-treated rats.

The biochemical alterations during \(\alpha\)-KG treatment could be due to (i) the participation of \(\alpha\)-KG in the non-enzymatic oxidative decarboxylation in the hydrogen peroxide decomposition process and (ii) enhancing the proper metabolism of fats which could suppress oxygen radical generation and thus prevent the lipid peroxidative damages in rats.

Key words: \(\alpha\)-ketoglutarate, ethanol, antioxidants, lipid peroxidation

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