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Green tea polyphenols for the protection against Isoprenaline-induced myocardial infarction in experimental hyperhomocysteinemic rats**Azza El Medany**

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Green tea is a beverage that is popular worldwide. Polyphenols in green tea have been receiving attention for the maintenance of human health. The contribution of antioxidant activity in preventing diseases caused by oxidative stress has been focused upon. Hyperhomocysteinemia (Hhcy) is a risk factor for cardiovascular disease. In this study we have investigated the effects of green tea extract (GTE) on isoprenaline (ISO)-induced myocardial infarction (MI) in hyperhomocysteinemic rats. Hhcy was induced by daily intake of methionine (1 g.kg^{-1} body weight) in the drinking water for 4 weeks. MI was then produced by a single subcutaneous injection of ISO (300 mg.kg^{-1}). Electrographic parameters, heart rate, ST interval, blood pressure and serum levels of creatine kinase (CK), lactate dehydrogenase (LDH) and SGOT as well as lipid peroxidation (MDA and GSH) were measured in heart tissue as indices of oxidative stress. Hhcy resulted in significant reduction of blood pressure, ST segment elevation and increase in heart rate, serum CK and LDH levels. Cardiac MDA was significantly increased while GSH was decreased as compared to normal control group. All the previously mentioned parameters were significantly exaggerated in Hhcy rats treated with ISO as compared to Hhcy group. Administration of GTE during the induction of Hhcy showed a considerable reduction in serum markers of cardio toxicity, heart rate, elevated ST segment and significant improvement in the reduced blood pressure. Cardiac MDA was decreased while cardiac GSH was elevated. Hhcy+ISO caused disorganization of myocardial tissue which was restored in animals treated with GTE along with Hhcy+ISO. It can be concluded that GTE possesses an antioxidant activity and by virtue of this action it can protect the heart from Hhcy alone or Hhcy+ISO induced MI.

Biography

Azza El Medany has completed her PhD and Postdoctoral studies from Alexandria University College of Medicine. She is a Professor of Pharmacology and Vice Head of Department of Pharmacology, College of Medicine, KSU. She has published more than 40 papers in the areas of GIT, CVS, natural products and toxicological researches in reputed journals and serving as a member of a number of professional bodies.

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