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Cardioprotective effect of peanut (*Arachis hypogaea L.*) extract and its combined action with propranolol against isoproterenol induced cardiotoxic rats

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Abstract

Prolonged use of cardioprotective drugs may produce some side effects. Many natural plant foods often used in prevention and management of cardiac damage. For this the study was undertaken to observe "Cardioprotective Effect of Peanut Extract and Its Combined Action with Propranolol against Isoproterenol Induced Cardiotoxic Rats", and was done in the Department of Physiology, SSMC, Dhaka, Bangladesh, from January to December 2012. 50 Wistar albino rats, age 85 to 100 days, weighing 120 to 150 g included and divided into control and experimental groups. Control group is subdivided into baseline, isoproterenol and propranolol control. Experimental group subdivided into peanut and combined treatment of peanut and propranolol groups. Propranolol group given propranolol (10mg/kg body weight; orally) for last seven days, peanut group given peanut for 21 days, combined group given both peanut for 21 days and propranolol for last seven days. All animals except baseline control were given isoproterenol subcutaneously (150 mg/kg body weight/day) for last two (at 20th & 21st day of study period) days. Rats were sacrificed on 22nd day. Serum cardiac biomarker enzymes and lipid profile were measured. Statistical analysis is done by one way ANOVA and Bonferroni test. Serum troponin I, CK-MB, and LDH levels were significantly lower in combined groups compared to isoprotenerol and peanut groups. Serum TC and LDL-C were significantly lower in peanut and combined groups compared to isoproterenol group. Again, HDL-C was significantly higher in combined group compared to peanut group. So, combined therapy of peanut and propranolol showed synergistic cardioprotective effects.

Biography

Nayma Sultana has completed her M.Sc. and M.Phil. in Physiology from Bangabandhu Sheikh Mujib Medical University (BSMMU, Dhaka, Bangladesh). She is an Associate Professor of Physiology, Sir Salimullah Medical College, Dhaka, Bangladesh. Nayma Sultana has published 17 Scientific Articles in reputed international and national journals and serving as an editorial board member of Journal of Bangladesh Society of Physiologists (JBSP).