

Antioxidant and cardio protective effect of palm oil leaves extract (standardized ethanolic fraction) in rats' model of saturated fats induced metabolic disorders

ABSTRACT

Recently, it is suggested to use POLE (palm oil leaf extract) as a nutraceutical health product in food industry due to its newly discovered content of polyphenols and antioxidant vitamins. In the experiment, the antioxidant and anti-lipid-peroxidation activities of the extract were confirmed using; DPPH (1-diphenyl-2-picryl-hydrazil) radical scavenging activity, ferric ion induced lipid peroxidation inhibition, reducing power and hydrogen peroxide scavenging activity assays. The cardio-protective activity was studied in vivo using a model of metabolic syndrome induced by high fat diet. Lipid profile, obesity indices, renal tubular handling of water and electrolytes, blood pressure and arterial stiffness were measured at the end of the treatment period. Sprague Dawley rats weighing 150-200 g were divided into six groups, viz; group C; was treated as a negative control and fed with standard rodents chow, group H; was treated as a positive control and fed with an experimental diet enriched with saturated free fatty acids for 8 weeks, groups HP0.5, HP1 and HP2 which were fed with 0.5,1 and 2 g/kg (body weight) /day of POLE orally during the last 24 days of the high fat diet feeding period and group P; fed with highest dose of POLE. Results revealed that POLE possesses a cardio-protective effect which is ascribed to its content of polyphenols.

Keyword: Arterial stiffness; Cardio-protective; Lipid profile and blood pressure; Polyphenols