**ABSTRACT**

Ischemic heart diseases have been the leading cause of death in both developed

and developing countries over the past decades. The aim of the study was to investigate

cardioprotective actions of hesperetin and silymarin on lipid peroxidase and antioxidants

in normal and isoproterenol induced myocardial infarcted rats. Subcutaneous injection of

isoproterenol (150 mg kg-1) to male wistar rats at an interval of 24 h for 2 days showed a

significant (p < 0.001) increase in cardiac marker enzymes (ALT, AST), significant

decrease in tissue LDH levels, enzymic antioxidants (SOD, GPx, catalase) and

nonenzymic antioxidants (GSH, GST). Lipid peroxidative product (MDA) in tissue and

serum were significantly (p < 0.001) increased in isoproterenol treated groups.

Pretreatment with hesperetin (30, 60, 90 mg kg-1) and silymarin (50,100,150 mg kg-1) to

isoproterenol treated rats orally for a period of 37 days daily caused significant effect.

Administration of hesperetin and silymarin to normal rats did not have any significant

effect on any of the parameters studied. The present findings have demonstrated that the

cardioprotective effect of hesperetin and silymarin in isoproterenol induced oxidative

damage may be due to an attenuation of oxidative stress, moderate increment in

endogenous antioxidant levels and inhibition of lipid peroxidation of membrane, which

was further confirmed by histopathological reports.

**Keywords:-** Ischemic heart diseases, Antioxidants, Hesperetin, Silymarin, Oxidative

stress