

ABSTRACT

The present study was undertaken to evaluate the Cardioprotective potential of tetrahydrocurcumin (THC) and rutin in an *in-vivo* rat the ischemia – reperfusion (I/R) model of myocardial infarction (MI). Male wistar rats were divided into six groups and received saline intraperitoneally (control I/R group), vehicle control I/R group intraperitoneally, THC 5mg & 10mg intraperitoneally and Rutin 5mg & 10mg intraperitoneal injection respectively. On the experiment day, each groups were subjected to *in-vivo* rat model of acute ischemia for 30 minutes occlusion of left anterior descending coronary artery (LAD) and there after reperfusion for 4hrs. I/R resulted in significant cardiac necrosis, elevation in lipid peroxidation, elevation in cardiac marker enzymes AST, ALT and decline in antioxidant status catalase, reduced glutathione in the normal control I/R group and vehicle control I/R group. Myocardial infarction produced after I/R was significantly reduced in tetrahydrocurcumin and rutin of the myocardial antioxidant status, infarct size reduction compared to control I/R group and vehicle control I/R group. Furthermore, I/R induced lipid peroxidation was significantly reduced by tetrahydrocurcumin and rutin. Cardioprotective effect of tetrahydrocurcumin and rutin likely results from suppression of oxidative stress. Histopathological examination further confirmed the protective effect of tetrahydrocurcumin and rutin on the heart.

Keywords: Myocardial infarction, Antioxidants, Tetrahydrocurcumin, Rutin, Oxidative stress.