

Roselle is cardioprotective in diet-induced obesity rat model with myocardial infarction

ABSTRACT

Aims: Obesity increase the risks of hypertension and myocardial infarction (MI) mediated by oxidative stress. This study was undertaken to investigate the actions of roselle aqueous extract (R) on cardiotoxicity in obese (OB) rats and thereon OB rats subjected to MI. **Main methods:** Male Sprague-Dawley rats were fed with either normal diet or high-fat diet for 8 weeks. Firstly, OB rats were divided into (1) OB and (2) OB+ R (100 mg/kg, p.o, 28 days). Then, OB rats were subjected to MI (ISO, 85 mg/kg, s.c, 2 days) and divided into three groups: (1) OB +MI, (2) OB +MI+R and (3) OB +MI + enalapril for another 4 weeks. **Key findings:** Roselle ameliorated OB and OB +MI's cardiac systolic dysfunction and reduced cardiac hypertrophy and fibrosis. The increased oxidative markers and decreased antioxidant enzymes in OB and OB +MI groups were all attenuated by roselle. **Significance:** These observations indicate the protective effect of roselle on cardiac dysfunction in OB and OB + MI rats, which suggest its potential to be developed as a nutraceutical product for obese and obese patients with MI in the future.