

عنوان مقاله:

Hepatoprotective effects of betaine on liver damages followed by myocardial infarction

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خلاصه مقاله:

Myocardial infarction is commonly considered as a leading cause of cardiovascular disease taking the lives of seven million people annually. Liver dysfunction is associated with cardiac diseases. The profile of abnormal liver functions in heart failure is not clearly defined. This study was designed to investigate the protective effects of betaine on liver injury after myocardial infarction induced by isoprenaline in rats. Forty-eight male rats were divided into four groups: the control group received normal diet and the experimental groups received 50, 150, and 250 mg kg⁻¹ body weight of betaine daily through gastric gavages for 60 days. All of experimental and control groups experienced myocardial infarction, induced by subcutaneous injection of 100 mg kg⁻¹ isoprenaline in two consecutive doses (8:00 AM to 8:00 PM). Liver enzymes including aspartate transaminase (AST) and alanine transaminase (ALT) were significantly reduced in the groups treated with betaine, compared with the control group. The total antioxidant capacity in the experimental groups, treated with betaine, showed a significant increase, compared with the control group. In the control group, severe lesions were created in the liver tissue, while degenerative changes of liver tissue significantly reduced in groups treated with different doses of betaine, showing the repair of liver tissue. Betaine decreased apoptosis in the experimental groups in comparison with the control group. Betaine showed a protective effect against biochemical and histological changes in liver tissue caused by the induction of myocardial infarction via isoprenaline injection.

کلمات کلیدی:

Apoptosis, Betaine, Isoprenaline, Liver, Myocardial infarction

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