

عنوان مقاله:

Protective effect of pomegranate seed oil against H₂O₂ -induced oxidative stress in cardiomyocytes

محل انتشار:

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خلاصه مقاله:

Objective: It has been well documented that oxidative stress is involved in the pathogenesis of cardiac diseases. Previous studies have shown that pomegranate seed oil (PSO) has antioxidant properties. This study was designed to investigate probable protective effects of PSO against hydrogen peroxide (H₂O₂)-induced damage in H9c2 cardiomyocytes. **Materials and Methods:** The cells were pretreated 24 hr with PSO 1 hr before exposure to 200 μ M H₂O₂. Cell viability was evaluated using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium (MTT) assay. The level of reactive oxygen species (ROS) and lipid peroxidation were measured by fluorimetric methods. **Results:** H₂O₂ significantly decreased cell viability which was accompanied by an increase in ROS production and lipid peroxidation and a decline in superoxide dismutase activity. Pretreatment with PSO increased viability of cardiomyocytes and decrease the elevated ROS production and lipid peroxidation. Also, PSO was able to restore superoxide dismutase activity. **Conclusion:** PSO has protective effect against oxidative stress-induced damage in cardiomyocytes and can be considered as a natural cardioprotective agent to prevent cardiovascular diseases.

کلمات کلیدی:

Pomegranate seed oil, H9C2 cells, ROS, SOD, Oxidative stress

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