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Effect of Antioxidants on Cultured Myocytes Damaged by Oxygen Radicals

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It has been demonstrated that oxygen radicals are main factor of myocardic diseases. But, the pathological feature of oxygen radicals is left unknown. Many studies have been suggested that oxygen radicals evoke the secretion of excitotoxic amino acid. There is evidence that oxygen radicals and excitotoxic amino acid are regarded to play a key role in toxicity of oxygen radicals. This study aims to examine the oxidant-induced cardiotoxicity. Cultured myocytes were treated with oxygen radical scavengers. In this study, oxygen radicals decreased cell viability in a dose- and time-dependent manners, and also superoxide dimutase (SOD), glutathione, catalase, allopurinol were effective in the prevention of oxygen radical-induced myotoxicity. This results indicate that oxygen radicals are toxic and selective antioxidants, SOD, allopurinol, glutathione and catalase show positive effects in blocking the cardiotoxicity induced by oxygen radicals.

Keyword : Cardiotoxicity, Oxygen radicals, Superoxide dimutase (SOD)