

## Role of oxygen free radical and other inflammatory mediators in acute necrotic pancreatitis

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### Abstract

**AIM:** To study the role of oxygen free radical (OFR) and other inflammatory mediators in acute necrotizing pancreatitis (ANP).

**METHODS:** ANP model was induced by retrograde injection of 5% sodium taurocholate 2.0 mL/kg, rats were randomly divided into four groups: (1) control group, (2) ANP group, (3) ANP + NS group, (4) ANP + IL-2 group. Changes of SOD and MDA in plasma and pancreatic tissues and serum endotoxin, PLA<sub>2</sub> were studied. We

also studied the histologic changes of pancreas, liver and lung. The effects of interleukin-2 (IL-2) in the treatment of ANP were observed in this experiment.

**RESULTS:** Oxygen free radicals were involved in the aggravation of ANP and was associated with the increase of serum endotoxin and PLA<sub>2</sub>. Those mediators were positively correlated with severe multiple organ damage. The results also suggested that IL-2 can inhibit the overexpression of OFR and endotoxin, and reduce the incidence of multiple organ damage in ANP.

**CONCLUSION:** OFR might play a major role in the pathogenesis of ANP, and IL-2 might have a potential role in the treatment of ANP.

**Key words:** Pancreatitis; Free radicals; Interleukin-2; Endotoxins; Superoxide dismutase; Malondialdehyde

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