



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

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Received: July 14, 1998
Revised: August 27, 1998
Accepted: September 22, 1998
Published online: October 15, 1998

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, PLA₂ 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 PLA₂. 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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Wang WX, Zhao HP, Shou NY, Yang CW. Role of oxygen free radical and other inflammatory mediators in acute necrotic pancreatitis. *World J Gastroenterol* 1998; 4(Suppl2): 57 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v4/iSuppl2/57.htm> DOI: <http://dx.doi.org/10.3748/wjg.v4.iSuppl2.57>

E- Editor: Li RF



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