(Medline Express articles 10)
Article No 10 - Effects of antioxidant treatment in rats with acute haemorrhagic pancreatitis.
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Dig-Dis-Sci 1994 May

The purpose of this study was to evaluate the effect of free radical ablation therapy in acute haemorrhagic pancreatitis. Acute pancreatitis was induced in 64 rats by retrograde injection of 5 percent sodium taurocholate. Thirty animals were pre-treated with 100,000 units/kg/hr of superoxide dismutase (SOD) and 400,000 units/kg catalase within the first 3 hr. After 0.5, 3.5 and 12 hr of observation time, serum enzymes and the tissue content of conjugated dienes, malondialdehyde, reduced and oxidised glutathione, as well as ATP, ADP and AMP were measured. In addition, tissue samples were examined by light microscopy. Untreated rats (N = 34) developed within 12 hr an acute haemorrhagic narcotising pancreatitis with a concomitant increase in serum enzyme levels and a decrease in reduced glutathione and ATP. Within the 12-hr observation period, 57 percent of the animals died. Scavenger treatment improved the tissue damage and attenuated the increase of the serum enzyme levels and the decrease in reduced glutathione and APT. Moreover, the lethality rate was significantly lower.
Oxygen seem to be instrumental for the development of acute haemorrhagic pancreatitis. Thereby, antioxidant treatment reduces tissue damage, biochemical alterations and extrapancreatic complications, thus improving the final outcome.
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