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REVERSAL OF ENDOTOXIN-INDUCED HYPOTENSION BY OPIOID ANTAGONISTS IN RATS

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Since opioid peptides are released in response to stress, it appears possible that these peptides be released during stress of sepsis and contribute to the hypotension observed in this condition. Three opioid antagonists were used to reverse the endotoxin-induced hypotension in rats. Endotoxin (30 mg/kg) produced multiphasic depressor effect which lasted more than 3 hr. Equi-volume of saline or opioid antagonists was administered when endotoxin depressed mean arterial pressure of the animal to 60-70 mmHg. Among opioid antagonists used in this study, 1 mg/kg of naloxone seem to be most effective in the reversal of hypotension induced by endotoxin, followed by 7 mg/kg of nalorphine and 3 mg/kg of pentazocine, respectively. Other doses of each opioid antagonists were tried but with less successful reversal. When the most effective doses of each opioid antagonists in the reversal of endotoxin-induced hypotension were compared, their effectiveness were not significantly different. The results of this study support the original hypothesis that endogenous opioid peptides contribute to the pathophysiology of endotoxin-induced hypotension.