

Lung toxicity of paraquat in the rat

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摘要

Abstract

In a rat model of paraquat-induced lung injury, pulmonary alveolar lavage fluid metabolic parameters were assessed to establish damage, and the use of surfactant was employed as a protective agent. Three groups of adult male Sprague-Dawley rats received intraperitoneal injection of paraquat (35 mg/kg body weight) in 1 ml saline, or received 1 ml saline, or no material. On d 3, 7, 14, and 21 after injection, pressure-volume curves and pulmonary alveolar lavage fluids were obtained. On d 3 paraquat significantly increased the lung wet/dry weight ratio and protein content but lowered phosphatidylcholine levels. There were no marked changes at other time points in the parameters examined. The pressure-volume curves initially moved downward and to the right on d 3 and 7 and then returned to control levels in the paraquat-treated rats. Immediate intratracheal administration of Survanta after paraquat injection (70 mg/kg body weight) tended to increase the survival rate on d 1 compared to rats without Survanta administration. Our results suggest that administration of exogenous surfactant may play a role in the treatment of patients poisoned with paraquat.