

LOW-DOSE VERSUS HIGH-DOSE HEPARINIZATION DURING ARTERIOVENOUS CARBON DIOXIDE REMOVAL

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Objective

Compare low dose and high dose systemic heparinization in pumpless lung assist.

Study Design

Randomized prospective experimental outcome study comparing extracorporeal CO₂ removal at ACT > 300 seconds (n = 6) with ACT < 200 seconds (n = 7).

Study Population

13 adult sheep.

Methods

Smoke inhalation injury (LD 50) plus 40% 3rd degree burn.

Measurement of ABG, CO₂ removal performance, PaO₂/FiO₂ ratio, mechanical ventilation settings, outcomes after 72 hours.

Results

Low dose systemic heparinization (ACT < 200 seconds) with a heparin coated gas exchange device does not increase thrombogenicity during extracorporeal lung assist for smoke / burn-induced severe lung injury in sheep.

Commentary

Substantial outcome improvement and significantly more ventilator free days with extracorporeal CO₂ removal give valuable information on the potential of this method in smoke inhalation/burn injury patients.

