

Category : **Respiratory: monitoring**

A209 - MINIMALLY INVASIVE EXTRACORPOREAL CO₂ REMOVAL WITH PRISMA LUNG AND PRISMA LUNG + : EFFECT ON CO₂ CLEARANCE

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Introduction:

ECCO₂ removal may be useful in acute decompensated chronic obstructive disease and in ARDS to improve mechanical ventilation. ECCO₂ removal may be also combined with Renal Replacement Therapy when AKI and respiratory failure coexist.

Aim of this study is - to quantify membrane lung CO₂ removal (VCO_{2ML}) of two membrane lung oxygenator inserted in a RRT platform.

Methods:

15 patients were submitted to RRT combined with ECCO₂R integrated into the Prismaflex platform (Baxter , USA) . In 10 patients a 0,35 m² surface area polymethylpentene heparine coated hollow fiber membrane oxygenator (PrismaLung , Baxter , USA) was used . In five patients a 0,8 m² surface area polymethylpentene and phosphorilcoline coated membrane oxygenator was used (PrismaLung +, Baxter ,Usa). The RRT was CVVHDF mode and Pump flow was gradually increased from 200 ml/min to 400 ml /min. Heparine was used for anti-coagulation. Arterial , pre and post oxygenator blood gas were obtained to calculated VCO_{2ML} (1)

Results:

All the treatments were completed without major complications. Pump flow was 350±80 ml/min in all patients. Patients treated with PrismaLung and PrismaLung+ had 10 and 7 VCO_{2ML} measurements respectively . VCO_{2ML} was 64 ± 24 ml/min in the PrismaLung patients and 104 ± 13 ml min in the PrismaLung + patients (p < 0,01).

Conclusion:

ECCO₂R combined with RRT ma be used safety in patients with AKI and respiratory failure. PrismaLung + seems to remove CO₂ better then PrismaLung , as reported from sperimental data. Larger studies are warranted.

References:

1- Crit Care Med 2015 ;43 :2570-2581