

Blood Purification Techniques in septic patients: a comparison between two different strategies

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Introduction

Septic patients can be effectively treated using various blood purification techniques. Such therapies support organ function and improve outcomes by controlling the systemic inflammatory response often seen in severe sepsis and septic shock

Methods

We present a case series of 18 septic patients with stage 3 acute kidney injury (AKI), treated using continuous renal replacement therapy (CRRT). Five patients received CRRT with Oxiris alone, while thirteen received CRRT with Oxiris plus CytoSorb. Treatment was personalized based on each patient's clinical profile and progression. Patients in the CytoSorb group were more severely ill.

Results

CytoSorb group has shown a stronger tendency than Oxiris group in improving several parameters at 72h, such as creatinine reduction (from 2,41 mg/dl to 0,61 mg/dl, reduction: 75% and from 2,35 mg/dl to 1,40 mg/dl, reduction: 41% respectively); PCR reduction (from 31,18 mg/dl to 16,45 mg/dl, reduction: 47% and from 12,02 mg/dl to 8,94 mg/dl, reduction: 26% respectively); PCT reduction (from 16,45 ng/ml to 8,25 ng/ml, reduction: 63% and from 8,94 ng/ml to 3,64 ng/ml, reduction: 24% respectively); Noradrenaline reduction (from 0,5 micg/Kg/min to 0,06 micg/Kg/min, reduction: 88% and from 0,25 micg/Kg/min to 0,08 micg/Kg/min, reduction: 70% respectively); lactate reduction (from 7,5 mmol/l to 2 mmol/l, reduction: 73% and from 3,9 mmol/l to 1,2 mmol/l, reduction: 69%); Length Of Stay reduction (12 days and 18 days in CytoSorb group and Oxiris group respectively); SOFA reduction (from 14 to 7, reduction: 50% and from 18 to 10, reduction: 44% respectively); rate of kidney function recovery (63% in CytoSorb group and 40% in Oxiris group, respectively).

Conclusion

Our experience suggests that these therapies may contribute to improvements in metabolic parameters, hemodynamic status, kidney function, SOFA scores and length of stay reduction in intensive care. Comparative data indicate that combining CytoSorb with Oxiris offers synergistic benefits over Oxiris alone (Figure 1).

Figure 1: PCT, Noradrenaline, Lactate, SOFA scores and length of stay, at baseline and 72h

