Category :**Renal: extracorporeal support**

A358 - ***Hypothermia associated with high-volume continuous renal replacement therapy: dependence on the method of warming blood and dialysis fluids***

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Introduction:

Up to 50% of critically ill patients require renal replacement therapy (RRT) due to acute kidney injury and multiple organ failure. Extended high-volume continuous renal replacement therapy (HV-CRRT) can significantly improve treatment outcomes for patients with septic and nonseptic multiorgan failure by effectively eliminating medium and large toxic molecules. It promotes better hemodynamic tolerability of renal replacement therapy, modulation of the inflammatory and immune response, and has a positive effect on outcomes and mortality.

Methods:

During 2021-2023, we provided 97 sessions of HV-CRRT in patients with multiple organ failure in our intensive care unit.

We used HV-CRRT with a flow rate of 35-50 ml/kg/h. In 13 patients, we used the Prismaflex device, where extracorporeal blood warming occurs by heating the return line (blood returning to the patient). In 21 patients, we used the multiFiltrate device, which uses built-in heating elements to warm dialysate and substitute solutions. We monitored hemodynamics, water-electrolyte and acid-base balance, and axillary body temperature of the patients. To assess the effectiveness of therapy, we assessed the duration of patients' stay in the ICU, their functional indicators of the cardiovascular and respiratory systems, and laboratory dynamics of markers of liver, kidney, and hemostasis function.

Results:

The effectiveness of CRRT was identical in both groups of patients. However, in the group where blood warming was used by heating the return line, the procedure was accompanied by the development of stable mild hypothermia in the range of 34-36 degrees Celsius, which remained stable despite the use of additional methods of external warming of patients.

Conclusion:

Hypothermia in critically ill patients receiving high-volume continuous renal replacement therapy is more common with the use of external rewarming systems.

References:

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