

The Warming Method to Prevent Hypothermia in Patients Treated with CRRT (Continuous Renal Replacement Therapy)

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Purpose: The purpose of this study was to investigate the usefulness of heated dialysate solution (HDS) and heated replacement solution (HRS) to keep the body temperature, and the incidence of hypothermia in ICU patients on CRRT.

Method: To keep the body temperature, we made the HDS and HRS using it in the peritoneal dialysis solution warmer. We measured body temperature every an hour for initial 5hr after applying HDS and HRS by tympanic membrane thermometer. 129 of ICU patients on CRRT were randomly assigned to four groups: only dialysate warmer; DW (n=33), only blood warmer; BW (n=32), DW+HDS+HRS (n=32), BW+HDS+HRS (n=32).

Results: The incidences of hypothermia of only DW, DW+HDS+HRS, only BW, BW+HDS+HRS were 72.7%, 12.5%, 68.8% and 18.8%, respectively. The patients' core temperature in DW+HDS+HRS and BW+HDS+HRS groups maintained within isothermic range and those in DW and BW groups significantly decreased for initial 5hr after applying CRRT <respectively, time (p=.000, p=.000)>. There was significant difference in the patients' core temperatures between DW and DW+HDS+HRS groups <group (p=.001)> and no significant difference between BW and BW+HDS+HRS groups <group (p=.093)>.

Conclusion: In conclusion, the additional application of HDS and HRS to DW or BW could be an easy and effective method to keep the patients' body temperatures on CRRT.

Key words: CRRT (Continuous Renal Replacement Therapy), Hypothermia, Warming