

ABSTRACT

INTRODUCTION: We conducted a prospective observational study from August 2007 to August 2008 to evaluate early continuous veno-venous haemodiafiltration (CVVHDF), in patients with refractory septic shock and multi-organ failure upon mortality & morbidity in the ICU.

Methods: CVVHDF was implemented at less than 6–12 hours of maximal haemodynamic support. Metabolic acidosis, serum lactate & serum procalcitonin level (PCT) before & after CVVHDF at day 5 were the monitoring used to evaluate the improvement achieved. 40 patients included in the study were chosen randomly, 20 underwent CVVHDF (group I) & 20 were control group (group II) treated using traditional guidelines. APACHE II & Delta-SOFA scoring systems were used before & after CVVHDF at day 5.

RESULTS: Compared to group II, pts of group I had lower mortality (55% vs 70%). Group I patients showed a non significant delta SOFA (5.95 ± 4.39 vs 6.2 ± 3.3 in group I & II respectively & $P=0.66$), regarding APACHE II scores, group I also showed statistically non-significant lower figures than group II (on admission APACHE II scores were 39.35 ± 10.65 vs 41.85 ± 10 in group I & II respectively & $P=0.45$) while on day 5 APACHE II scores were (34.8 ± 10.6 vs 36.1 ± 10.9 in group I & II respectively & $P=0.41$). Group I patients showed lower PCT on admission & day 5 than group II patients (on admission PCT level was 0.64 ± 0.18 vs 0.68 ± 0.17 in group I & II respectively & $P=0.5$) while day 5 PCT level was (0.51 ± 0.15 vs 0.52 ± 0.17 in group I & II respectively & $P=0.83$). Indicators of improvement showed statistically significant difference between survivors & non-survivors regarding Serum lactate level at day 5 ($P<0.001$), while other indicators as Fever, Renal profile, WBC count, Metabolic acidosis, Serum lactate level on admission & Platelets count were statistically insignificant (on admission P-value=0.2, 0.55, 0.45, 0.41, 0.65, 0.55 for each indicator respectively & on day 5 P-value=0.37, 0.94, 0.71, 0.5, <0.001, 0.88 for each indicator respectively).

Conclusion: Early CVVHDF may improve the prognosis of sepsis-related multiple organ failure, Failure to correct metabolic acidosis rapidly during CVVHDF is a strong predictor of mortality as it was more evident in non-survivors. Continuous rising of serum lactate level despite CVVHDF is associated with increased mortality rate. Of all scoring systems used SOFA maximum, Delta-SOFA and APACHE II day 5 were the most accurate prognostic indicators for mortality. More than 4 organs failure showed 100% mortality, while less than 4 organs failure showed no mortality in our study. PCT level was higher in non-survivors but with insignificant statistical difference between the 2 groups.

KEYWORDS: continuous veno-venous hemodiafiltration, lactate, procalcitonin, delta-sofa, APACHE II