
Letter to the Editor

Continuous Renal Replacement Therapy in Acute Renal Failure – Single Center Experience

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Dear Editor,

Evolution of technology of renal replacement therapy (RRT) has led to the availability of a broad range of options for the management of patients with acute renal failure (ARF) [1]. Nevertheless, there is uncertainty on the effect of different dialysis modalities on patient recovery and outcome [2,3]. In order to contribute to solving this question we would like to present our experience with the use of continuous renal replacement therapy (CRRT) in patients with severe ARF. As the main problem in the treatment of such patients is hemodynamic instability, CRRT seems suitable especially for early correction of this instability.

The study involved forty-one patients (31 males, aged 11-76 years, mean age 45.8 years) with ARF treated in Intensive Care Unit and at the Department of Nephrology, Clinical Center, Podgorica, Montenegro in four year period (2004 - 2008). The etiology of ARF was: polytrauma in 8 patients, cholecystopancreatitis in 8, sepsis in 6, complications of diabetes mellitus in 3, surgery for ruptured abdominal aortic aneurysm in 3 and aortocoronary by pass in 4, hemorrhagic fever in 2, hepatorenal syndrome in 2, rapidly progressive severe glomerulonephritis in 3, subacute endocarditis in 1 and primary antiphospholipid syndrome in 1 patient. Out of them 25 were treated with continuous venovenous hemodiafiltration (CVVHDF), 13 with continuous venovenous hemofiltration (CVVHF) and 3 with combination of these two methods using original kit 7 and 8, Fresenius Medical Care, Ultraflux AV-1000 S dialyzer and Multifiltra-Fresenius machine. Duration of treatment ranged between two (patient died) and 36 hours for patient treated by CVVHDF and between two and a half hours (patient died) and 45 hours for CVVHF patients. Depending on patient condition UF rate varied between 20 to 50 ml/kg/min.

Fourteen patients completely recovered their renal function, but 9 patients improved renal function partially and their creatinine clearance was above 30 mL/min. Eighteen (44%) patients died: 4 with polytrauma, 4 with cholecystopancreatitis, 1 after aortocoronary by pass, 3 after vascular surgery, 2 with hepatorenal syndrome, 2 with hemorrhagic fever, 2 with sepsis.

Although hemodialysis became the lifesaving method in the treatment of ARF after the Second World War, mortality in severe ARF requiring RRT maintained about 50%. CRRT has been increasingly used in the management of acute renal failure in critically ill patients [1]. Although according to available data from the literature CRRT did not offer any benefit as compared to intermittent hemodialysis in terms of survival it brought other potential benefits such as hemodynamic stability, better tolerability of ultrafiltration, and depuration of solutes (4-6). The presented data on the use of CRRT at a single tertiary medical center suggested potential survival advantages and supported application of CRRT in critically ill patients. As many factors had influence on the outcome of ARF patients, further studies should need a randomized approach taking into account severity of illness, patient age and comorbidities as well as modality and dose of RRT method. In addition, our experience indicated that regardless of ARF etiology and patient condition, the early beginning of CRRT and frequent changes of dialyzers could be of great importance for patient recovery and outcome.

Conflict of interest statement. None declared.

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