DE-RESUSCITATION RATE IN ACUTE KIDNEY INJURY IN CRITICALLY ILL PATIENTS: DO REMOVE MORE IS THE BEST CHOICE?

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INTRODUCTION: The fluid overload has been identified as a poor prognostic factor in acute kidney injury (AKI), but the removal rate of body fluids (de-resuscitation) has been less studied (1). Our objective was to compare groups of critically ill patients with AKI submitted to different rates of de-resuscitation (UF fluid withdrawal) through dialysis (renal replacement therapy – RRT), in order to identify factors associated with them.

METHOD: A cohort of critically ill patients who required RRT by AKI stage 3 was followed in the years 2015 and 2016. Stage 5 chronic kidney disease and renal transplant patients were excluded, as were those treated by peritoneal dialysis or who had only one or two days of treatment. RRT was intermittent hemodialysis - IHD (Fresenius ™) for hemodynamically stable patients or continuous RRT-CRRT (Prisma ™ or Diapact ™) for unstable patients. The weight was measured daily in bed-scale and the daily loss calculated in g /Kg/day representing the UF (de-resuscitation). Variables analyzed were: demographic data, baseline creatinine, AKI type, comorbidities, APACHE II score, and treatment-related variables. The outcomes were mortality and dialysis dependence. Patients were divided into three groups: G1: gained weight during treatment; G2 with weight loss corresponding to less than 10 mg/kg/ day; G3 with greater weight loss than this (Fig.1) The groups were compared by ANOVA or chi-square, using SPSS version 19. ($p = 0.05$).

RESULTS: After exclusion, 390 treated patients were analyzed, divided into the three groups. Continuous RRT was used in 86 of them with citrate as an anticoagulant. G1 had more severe patients (APACHE II 37 ± 5), mean age 63 ± 8 years, started treatment with 101 ± 4 kg and gained 690 ± 850 mg/day in 10.4 ± 14.9 days. The lethality was 86 and 64; G3 65% ($p < 0.05$). Stay in the ICU was 14.7 days. (Table1A and B)

CONCLUSION: In critically ill AKI patients, the inability to obtain a negative water balance on dialysis, represented by weight gain throughout the treatment (G1), indicates a poor prognostic profile. In patients able to lose water volume (weight), the rate of water withdrawal is not associated with prognostic factors. However, the group that lost weight faster (G3) had a greater proportion of dialysis dependence. Despite G3 was able to remove higher volumes of UF, the best survival rate was observed in G2. One should hypotheses that high volume resuscitation should be strictly used in selected scenarios, once the need for high fluid removal rates maintain CRRT dependency and has a trend to higher mortality rates.