Abstract

Microalbuminuria and Hypoalbuminemia as predictors of outcome in critically ill patients

Background: assessment of the Microalbuminuria and Hypoalbuminemia can be good tools for prediction of intensive care unit outcome in critically ill patients **Purpose:** to evaluate and compare the prognostic significance of microalbuminuria (albumin creatinine ratio {ACR}) and serum albumin level on admission and after twenty four hours in (ICU) patients. **Methodology**: sixty patients admitted to ICU were involved in a prospective randomized clinical study (mean age were 44.4 ± 16.7/years, 78.3 % male) were divided into 2 groups according to mortality and were subjected to laboratory measurement of the mentioned biomarkers at admission and after twenty four hours. **Results:** there were 34 patients (56.67 %) survived in group A and 26 patients (43.33 %) died in group B. Albumin creatinine ratio on admission (ACR1), albumin creatinine ratio after 24 hours (ACR2) were significantly lower in survivors than non-survivors P value were < 0.001 for both, serum albumin level after 24 hours of admission (s. alb. 2) was significantly higher in survivors than non-survivors P value 0.02 while admission serum albumin(sr. alb. 1) was not significantly different between both groups P value was 0.1. There was a positive correlation between ACR2 and ICU stay and mechanical ventilator support with strong positive correlation to using of vasopressor support treatment (0.35,0.58 and 0.73 respectively), p values were (0.005, < 0.0001 and < 0.0001) respectively. There was a positive correlation between ACR2 with APACHE II and SOFA scores (0.46 and 0.43 respectively), p values were (0.001 and < 0.0001).There was a moderate negative correlation between serum albumin 1,2 and duration of mechanical ventilation (- 0.4 and - 0.39 respectively), P value were 0.001, and 0.002) respectively. By cox regression analysis 2 parameters were found to be independent predictors of mortality in ICU patients which were: age and using vasopressor treatment as P values= (0.01 and < 0.001), while the other parameters were not independent predictors of mortality, p values were more than 0.05. **Conclusions:** age and using vasopressor treatment both offer independent prognostic prediction of ICU outcome and bigger studies need for microalbuminuria and serum albumin.

Key words: Microalbuminuria, Hypoalbuminemia, mortality, ICU.