Serum Albumin is the Important Determinant of Mortality in Mechanically Ventilated Critically Ill Patients.

Chao-Hsiu Chen1 and Yi-Chia Huang

ABSTRACT

The purpose of this study was to investigate whether serum albumin is an important risk factor for mortality in mechanically ventilated critically ill patients. Critically ill patients were retro-spectively reviewed and categorized either into survivor (n = 83) or" non-survivor (n = 77) groups. Medical charts were examined for the admission scores of acute physiology and chronic health evalu-ation (APACHE) II and III, sequential organ failure assessment (SOFA), simplified acute physiology score II (SAPS II), multiple organ dysfunction syndrome (MODS), height, weight, age, diagnosis,and serum albumin, prealbumin, total lymphocyte count, and C-reactive protein levels within the first 24-72 h of their admission. Patients in the survivor group had significant higher values of serum albumin and significant lower in APACHE II and III, SOFA, SAPS II, and MODS scores than did-the non-survivor group. Serum albumin had a greater effect on mortality (OR, 0.425; 95 Cl, 0.226 - 0.800) than did APACHE II and III in the univariate analyses. After adjusting for age, gender and different combinations of clinical outcome scores, albumin still showed a constant and significant effect on the risk of mortality. A serum albumin concentration less than 2.3 g /dL on admission to the intensive care unit increased the mortality with the odds ratio of 2.569. Serum albumin was strongly and inversely associated with the mortality in mechanically ventilated critically ill patients. Although serum albumin can not replace the role of APACHE II or III, it can be used in clinical settings to better quantify baseline risk.

Nutr Sci J. 2005/2006, Vol. 30, No. 4, pp.174-182