

SERUM LACTATE/ALBUMIN RATIO AS A PREDICTOR OF OUTCOME IN PATIENTS WITH SEVERE SEPSIS AND SEPTIC SHOCK IN COMPARISON WITH ACUTE PHYSIOLOGY AND CHRONIC HEALTH EVALUATION (APACHE) IV SCORING SYSTEM

Severe sepsis is common and frequently fatal and represents a significant health care burden. Sepsis is a syndrome of physiologic, pathologic, and biochemical abnormalities induced by infection. The study examines the ability of serum lactate/albumin ratio to predict outcome as regards organ dysfunction and mortality in severe sepsis and septic shock.

Methods:

It is a prospective observational study conducted on 50 patients with severe sepsis and septic shock according to the SCCM/ESICM/ACCP/ATS/SIS International Sepsis Definitions Conference 2001 and fifty healthy age matched individuals as control group.

Results :

Lactate/albumin ratio was higher on day 0 and 1 in the study group than it in the control group (p value <0.001). also it was higher in patients needed mechanical ventilation than patients didn't need (p value <0.004 on day 0 and <0.001 on day 1). For patients who needed renal replacement therapy (RRT), lactate/albumin ratio was higher in patients who needed than those who didn't need (p value <0.001 for days 0 and 1). When comparing level of lactate/albumin ratio in survivors and non survivors, we found that it was higher in non survivors with statistical significance (p value <0.001). there was positive correlation between lactate/albumin ratio on days 0 and 1 with extent of organ dysfunction (r=0.717 on day 0, r=0.741 on day 1), and APACHE IV score (r=0.761 on day 0, r=0.772 on day 1) with statistically significant correlation (p value <0.001). by plotting ROC curve, cut off point of 17 on day 0 and 15 on day 1 gave a sensitivity of 86 % and specificity of 79% for day 0 and a sensitivity of 91% and a specificity of 82% for day 1.

Conclusion:

Lactate/albumin ratio is a reliable biomarker for prediction of outcome as regards organ dysfunction and mortality compared to APACHE IV scoring system.

Key words: Serum Lactate/Albumin Ratio, Outcome, Severe Sepsis and Septic Shock, APACHE IV