عنوان البحث باللغه الانجليزية:

Serum Albumin Level as a Predictor of Outcome in Patients Admitted to Pediatric Intensive Care Units

Abstract

Objective: The aim of this study was to assess serum albumin level on admission to the pediatric intensive care unit (PICU) as a prognostic indicator.

Methods: A prospective study was conducted in Fayoum University Children's Hospital. The study subjects' demographics and clinical and laboratory data were recorded. Pediatric Risk of Mortality III (PRISM-III) score was calculated. Serum albumin level was assessed within 24 hours from admission. Outcomes included mortality, PICU and hospital stay, need and duration of mechanical ventilation, and inotrope use.

Results: The incidence of admission hypoalbuminemiawas 26%. The study subjects had a significantly higher mortality rate than subjects with normal albumin levels (42.3% vs 17.6%, respectively, P = 0.011). Each unit of increase in serum albumin decreased the risk of mortality by 28.9% (odds ratio, 0.289; confidence interval, 0.136–0.615, P = 0.001). Serum albumin showed a fair discriminatory power (area under the curve, 0.738). At a cutoff point of ≤3.7 g/dL, albumin had a 79.2% sensitivity, 67.1% specificity, 43.2% positive predictive value, and 91.1% negative predictive value. Incorporation of serum albumin with PRISM-III scorewas more predictive of mortality than either predictors alone (area under the curve, 0.802). No significant difference was found between the 2 groups regarding either PICU and hospital stay as well as the need and duration of ventilation.

Conclusions: In PICUs, admission hypoalbuminemia is a good predictor of mortality. Further studies to confirm the value of adding serum albumin to PRISM-III score are recommended.

Key Words: hypoalbuminemia, mortality, outcome, PICU