

Survey of infant nutritional status in neonatal intensive care unit (NICU)

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Background and Aims: Malnutrition is widely prevalent among critically ill neonates. In recent years, serum protein parameters including albumin and prealbumin become reliable ways to evaluate nutritional status. The purpose of this study was evaluation of nutritional condition in neonatal intensive care unit (NICU).

Methods: As Cross-Sectional study, 100 infants admitted to NICU in Bu Ali Sina hospital conducted to this study. On the first day of admission and then every 5 days after admission, blood samples were taken for measurement of albumin and prealbumin. Data analyzed with SPSS 16.0 and P value under 0.05 considered as significant for differences and malnutrition severity was measured.

Results: The albumin concentrations in preterm infants from 4 ± 1.8 (g/dl) on admission reached to 3.9 ± 1.5 , 3.6 ± 1.4 , 3.3 ± 0.8 and 2.8 ± 0.5 (g/dl), respectively, on the 5th, 10th, 15th, and 20th but Pre-albumin concentrations in preterm infants was 10.5 ± 4.8 (g/dl), 9.6 ± 3.7 , 10.2 ± 3.4 , 9.8 ± 3.3 and 8.5 ± 3.1 (mg/dl), respectively. Also in term infants, the albumin concentration reached from 4 ± 1.2 (g/dl) on admission to the 3.6 ± 1.3 , 4 ± 1.9 , 3.5 ± 1.2 and 3.4 ± 1 (g / dl) on 5th, 10th, 15th, and 20th day but Pre-albumin concentration changed from 10.3 ± 3.4 (mg/dl) to 11 ± 3.4 , 13.2 ± 8 , 9.6 ± 3.9 and 9.5 ± 4.9 (mg/dl) respectively.

Conclusions: We conclude pre-albumin and albumin levels, on admission, determine the outcome of neonatal health. Lower levels of these markers increased mortality. Term infants had higher pre-albumin than preterm infants. Since Pre-albumin and albumin concentrations indicate malnutrition, it seems infants were studied, did not receive their daily calorie and protein requirements.

Keywords: NICU; Albumin; Malnutrition