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Title: Natriuretic peptide as a prognostic biomarker in septic shock in respiratory intensive care

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Body: To investigate whether NT-proBNP can be used as a prognostic factor in septic shock patients admitted to our Respiratory Intensive Care Unit (RICU). We did a retrospective study over a 4 year period. All patients admitted with or who developed septic shock during their RICU stay were enrolled. Patient's demographic data, comorbidities, NT-proBNP levels, glomerular filtration rate (GFR), severity index APACHE II scores and mortality rate were compared between survivors and non-survivors. NT-proBNP levels were determined within 48-72h of admission and were classified according to patient's age and renal function. During the study period 31 patients with septic shock were identified. Average age 64 ± 16 years old, 26 were males. Mean APACHE II score 29,2 ± 9,3; mean GFR 66,4 ± 58,2 ml/min/1,7 m2. The most frequent primary diagnosis was Pneumonia. Mortality rate was 87,1% (27 patients). Patients were then divided into two groups according to mortality recorded in the unit. The mean NT-proBNP levels was higher in the survivors group (17530,5 ± 27251 vs 14754,93 ± 23133,43 pg/ml). APACHE II was positively correlated with NT-proBNP (R=0,496, p=0,05). NT-proBNP levels didn't seem to have influenced mortality (p=0,798). Our results don't support the use of NT-proBNP levels as a prognostic factor in septic shock patients. However, the positive correlation observed between NT-proBNP levels and APACHE II scores predicts that NT-proBNP can be used at least as a surrogate marker of disease severity. These results may be due to the small sample size and to the high prevalence of chronic respiratory failure and preexisting cardiac diseases among our patients, which can lead to high basal levels of NT-proBNP.