Jong-Hau Hsu, Pediatr Ther 2017, 7:2(Suppl)
DOI: 10.4172/2161-0665-C1-039



# Early elevated B-type natriuretic peptide levels are associated with cardiac dysfunction and poor clinical outcome in pediatric septic patients

**Jong-Hau Hsu**
Kaohsiung Medical University Hospital, Taiwan

**Objective:** To determine the B-type natriuretic peptide (BNP) level in pediatric septic patients, and to investigate its association with cardiovascular dysfunction and clinical outcome.

**Methods:** Pediatric patients with sepsis or septic shock were prospectively enrolled in our pediatric intensive care unit (PICU). On day 1 of admission, plasma BNP levels were measured at the time-point of echocardiography. Myocardial dysfunction was defined as left ventricular fractional shortening (FS) < 30%. Inotropic support was quantified by inotropic scores and disease severity was assessed by Pediatric Risk of Mortality (PRISM) III scores. Therafter, associations between BNP levels and clinical parameters were analyzed.

**Results:** There were 94 patients (mean: 5.6 yr, range: 2 mo-17 yr) who were consecutively enrolled in this study. The median BNP level was 127 pg/ml (range: 5 to 4950 pg/ml). BNP levels were correlated with PRISM III (rho=0.36, p=0.001) and C-reactive protein level (r=0.39, p=0.001). The median BNP levels were not only higher in patients with septic shock (n=34) than those with sepsis (n=58) (213 vs. 54 pg/ml, p=0.0004), but also higher in patients with myocardial dysfunction (n=18) than those with preserved myocardial function (n=66) (765 vs. 65 pg/ml, p<0.001). We also found that BNP levels correlated negatively with FS (r=-0.56, p<0.001) and positively with inotropic scores (r=0.34, p=0.04). Most importantly, the median BNP levels were higher in non-survivors (n=13) than survivors (n=81) (367 vs. 106 pg/ml, p=0.003).

**Conclusion:** BNP levels are elevated in pediatric septic patients early in the disease course, and increased levels are associated with cardiovascular dysfunction and worse clinical outcome.

## Biography

Jong-Hau Hsu MD, PhD, is a Professor of Pediatrics in Kaohsiung Medical University in Kaohsiung, Taiwan. He is also the Director of Pediatric Cardiology and Pediatric Intensive Care Unit in Kaohsiung Medical University Hospital, and the Vice Director of School of Medicine of Kaohsiung Medical University. As a Pediatric Cardiologist and Intensivist, his research has focused on the role of BNP as a biomarker in pediatric cardiac intensive care and has published 10 articles about BNP since 2007.

jhh936@yahoo.com.tw

**Notes:**