Heart Failure: B-Type Natriuretic Peptide Testing

Tuesday, March 09, 2004, 4:00 p.m.-5:00 p.m.
Morial Convention Center, Room 217

ORAL CONTRIBUTIONS

857 Utility of B-Natriuretic Peptide Levels in Predicting Outcome of Hospitalized Patients With Congestive Heart Failure: Results of the Breathing Not Properly (BNP) Multinational Study


OBJECTIVES: We aimed to evaluate the value of BNP levels in predicting subsequent events (readmission & death) in patients admitted with decompensated heart failure (CHF). BACKGROUND: Heart failure is the leading cause of hospital admission among patients over the age of 65 years. Since the BNP levels are increased in ventricular wall stress, we hypothesized that BNP might be useful in assessing outcomes in patients admitted with CHF. METHODS: The BNP Multinational Study was a 7 center, prospective study of 1586 patients who presented with acute dyspnea and had BNP measured upon arrival. A subset of 452 patients with a final adjudicated diagnosis of CHF who underwent echocardiography within 30 days of their visit to the ED were evaluated. We followed 227 patients admitted with CHF. BNP levels were measured at admission and discharge & determined their subsequent adverse events in relation to BNPRESULT: Of the 227 patients admitted with CHF, 51 events occurred (death: n=9, readmissions: n=31, unknown cause of death: n=14). The median BNP levels, in patient group with no adverse events during the follow-up period, at admission and discharge was 653 & 450 (pg/ml) respectively in comparison to 961 & 678 (pg/ml) in patient group with adverse events. BNP levels were significantly lower both at the time of admission (p= 0.048) and at the time of discharge (p<0.016) in no-adverse event group. The patients in whom BNP decreased during their hospital stay had less adverse events (21.7%)when compared to patients in which the BNP increased (33.3%) (P=0.06). The Receiver Operating Characteristic Curves for BNP at admission and discharge in predicting events was 0.590 (p=0.035) and 0.609 (p=0.014) respectively, whereas the values for creatinine (0.608) and BUN (0.645) were significant. Also the patients, who had adverse event in the follow-up after discharge, were found to have significantly longer stay in the hospital at the time of enrollment (median: 8 days vs. 5 days p=0.018). CONCLUSION: Monitoring BNP levels during hospitalization should help risk stratify patients and likely improve ultimate outcomes.