ACC.12
61st Annual Scientific Session & Expo
ACC-i2 with TCT innovation in intervention

E1818
JACC March 27, 2012
Volume 59, Issue 13

Quality of Care and Outcomes Assessment

BRAIN NATRIURETIC PEPTIDE AS A PREDICTOR OF CLINICAL ADVERSE EVENTS IN CARDIAC SURGERY: A SINGLE-CENTER PROSPECTIVE STUDY

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Monday, March 26, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Optimizing Diagnostic Testing
Abstract Category: 31. Quality of Care and Outcomes Assessment
Presentation Number: 1252-112

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Background: The Brain Natriuretic Peptide (BNP) is a cardiac hormone secreted in response to myocardial stress and its plasma levels correlates directly with prognosis in various clinical situations. It is promising its ability to predict clinical outcome in postoperative cardiac surgery. This study aims to evaluate whether the preoperative BNP levels predicts clinical adverse events in cardiac surgery and the best cutoff value to predict mortality at 30 days postoperatively.

Methods: From January 2009 to february 2011, 254 patients undergoing cardiac surgery were evaluated in this study. The plasma concentration of BNP was obtained in the preoperative period and comorbidity of patients and postoperative outcomes were analyzed according to BNP level obtained in the historical prospective follow-up.

Results: Preoperative variables such as valve surgery, reoperation and Additive EuroScore were associated with a high value of preoperative BNP. Postoperatively, patients with elevated levels of preoperative BNP has higher rate of mechanical ventilation above 24 hours ($p<0.05$), lower rate of extubation in the operating room ($p<0.001$), higher rate of dialyses until seventh postoperative day ($p<0.05$) and increase mortality at 30 days ($p<0.001$)). A BNP cut-off value below 119 pg/ml demonstrated elevated predictive negative value (98%) and area under ROC curve equal 0.73 (95% CI - 0.60 to 0.85) for predicting mortality at 30 days.

Conclusion: The elevated serum level of preoperative BNP correlated with increase morbidity and mortality after cardiac surgery.