

## **N-Terminal Pro-Brain Natriuretic Peptide Adds Prognostic Value to the TIMI Risk Score**

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**Background** - The TIMI risk score is a validated prognostic scheme in patients with non ST elevation acute coronary syndromes (NSTEMI-ACS). Recently N-Terminal Pro-Brain Natriuretic Peptide (proBNP) has also showed to be an independent predictor of adverse cardiac events in acute coronary syndromes. We hypothesize that proBNP may provide additional information to the TIMI risk score

**Methods** - In this multicenter cohort study, the TIMI risk score was estimated in 1483 consecutive patients admitted for NSTEMI-ACS. Blinded measurements of troponin T (TnT) and proBNP levels were performed with a median time of 3hs after admission. The outcome measure was death or new myocardial infarction (MI) at 180 days. The following categories of risk were defined from the TIMI score: low (scores 0,1,2), moderate (scores 4,5), and high (scores 6,7). ProBNP levels over 775.7 pg/ml (4<sup>th</sup> quartile) and TnT over 0.03 ng/ml were considered positive.

**Results** - The 6 month rate of death or MI was 4.7%, 11.6% and 25.0% in the low, moderate and high risk TIMI categories respectively ( $p < 0.001$ ). The rate of death or MI from the 1<sup>st</sup> to the 4<sup>th</sup> quartile of proBNP was 3.5%, 5.4%, 5.9% and 20.2% respectively ( $p < 0.001$ ). In a logistic regression model including several clinical and ECG variables and TnT status, proBNP emerged as an independent predictor (OR 2.3, 95% CI 1.5-3.6,  $p < 0.001$ ). The figure shows the rate of death or MI in the TIMI risk categories stratified by the 4<sup>th</sup> proBNP quartile ( $\geq 775.8$  pg/ml).

**Conclusions** - In patients with NSTEMI-ACS proBNP added substantial prognostic information to the TIMI risk score. ProBNP should be routinely used for risk stratification in patients with acute coronary syndromes.

**Death-MI % (180 days)**

