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**Prognostic implications of multimodality assessment in patients with acute coronary syndrome**

**Authors:**
M Gegenava¹, T Gegenava¹, ¹Tbilisi State Medical University - Tbilisi - Georgia,

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Introduction: Rehospitalisation following an acute coronary syndrome (ACS) is frequent. According to studies the overall 1 and 3-year mortality of ACS patients after hospital discharge ranged from 19.4% to 28.2% respectively. Early risk stratification is mandatory to avoid rehospitalizations and to prevent deaths caused by complications of ACS. The aim of our study was to evaluate the prognostic value of the early measurement of NT-proBNP in patients with acute coronary syndrome-ACS in association with standard 2D transthoracic echocardiographic (2D TTE) measurements. Methods: We enrolled n=50 (mean age: 54±24, 65% male) patients admitted to our coronary care units with the diagnose of acute coronary syndrome. We used diagnostic methods, such as: Resting ECG, determination of cardiac troponin I level (cTnI), measurements of NT-proBNP, CK-MB and performed standard 2D TTE measurement. NT-proBNP and 2D TTE measurement were performed at 1-3 months after the hospital discharge.

Results: According to our results NT-proBNP was elevated in 36% (n=18) of hospitalized patients without symptoms of heart failure and from those patients, just in n=8 patients was inspected left ventricular ejection fraction (LVEF)<50%. During the follow-up, from the group of the patients who had elevated level of NT-proBNP on admission n=7 (38,8%) patients developed recurrent ischemic events (2 subsequent MI, 5 recurrent angina), and n=11 (61%) patients had symptoms of heart failure (NYHA II-III). We couldn’t find a correlation between NT-proBNP and decreased EF during hospitalization, but the correlation was significant between elevated NT-proBNP and LVEF at 1-3 months follow-up p<0.005 in patients with ST-segment elevation myocardial infarction (STEMI) group. The correlation wasn’t found in patients with myocardial infarction and without ST-segment elevation (NSTEMI).

Conclusions: Our results show that baseline NT-proBNP level is significantly associated with rehospitalization due to recurrent ischemic events and heart failure symptoms. Determination of NT-proBNP level during hospitalization for ACS patients can have predictive power for future complications.