

Acute Coronary Syndromes

PREDICTIVE VALUE OF ELEVATED NEUTROPHIL TO LYMPHOCYTE RATIO IN PATIENTS UNDERGOING PRIMARY ANGIOPLASTY FOR STEMI

Poster Contributions

Poster Sessions, Expo North

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Session Title: Percutaneous Coronary Intervention for AMI: Predictors of Outcome

Abstract Category: 1. Acute Coronary Syndromes: Clinical

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Background: Leukocytes total count is an independent risk marker for cardiovascular events. The ratio between neutrophils and lymphocytes counts (NLR) has been investigated as a new predictor for cardiovascular risk. We hypothesized that admission NLR would be predictive of adverse outcomes after primary angioplasty for ST-segment elevation myocardial infarction (STEMI).

Methods: 2410 consecutive STEMI patients (mean age 56.2 ± 11.7 years, 2015 male, 395 female) undergoing primary angioplasty were retrospectively enrolled into the present study. The study population was divided into tertiles based on admission NLR values. A high NLR ($n=803$) was defined as a value in the third tertile (>6.97), and a low NLR ($n=1607$) was defined as a value in the lower two tertiles (≤ 6.97). The median follow-up time was 21 months. Clinical characteristics, in-hospital and long-term outcomes of primary angioplasty were analysed.

Results: High NLR group had significantly higher incidence of in-hospital cardiovascular mortality and advanced heart failure than low NLR group (5% vs 1.4%, $p<0.001$; 17.1% vs 9.9%, $p<0.001$, respectively). The median follow-up time was 21 months. Long-term cardiovascular mortality and advanced heart failure rates were significantly higher in patients with high NLR. (7% vs 4.8%, $p=0.02$; 11.4% vs 7.3%, $p=0.002$, respectively). By multivariate logistic regression analysis; high admission NLR (>6.97) was found a powerful independent predictor of in-hospital cardiovascular mortality (odds ratio: 2.8, 95% confidence interval: 1.37-5.74, $p=0.005$).

Conclusions: These results suggest that high admission NLR level is associated with increased in-hospital and long-term cardiovascular mortality in patients with STEMI undergoing primary angioplasty.