In-hospital and long-term major adverse cardiac events stratified by PDW tertile

| | Tertile 1 (<12)(n=227) | Tertile 2 (12-13.7)(n=231) | Tertile 3 (>13.7)(n=221) | p value |
|---|---|---|---|---|
| In hospital major adverse cardiac events, n (%) | 10 (4.4%) | 19 (8.2%) | 15 (6.8%) | 0.251 |
| Long-term major adverse cardiac events, n (%) | 29 (12.8%) | 28 (12.1%) | 48 (21.6%) | 0.008 |

Data are expressed as percentage (%) for categorical variables.

statistically different (p=0.050). When we evaluated the long-term follow-up results, in-stent thrombosis and MACE tended to be higher with the increase of tertiles (p=0.005, p=0.008 respectively).

PDW was found to be an independent predictor of in-hospital MACE (odds ratio 1.081, 95% confidence interval 1.003-1.165; p=0.042) in patients with ACS underwent primer PCI via TRA and those followed medically. For long-term MACE; age and PDW were analyzed with multivariate logistic regression model. In multivariate analyses, PDW was an independent predictor of long-term MACE (odds ratio 1.218, 95% confidence interval 11.116-1.328; p=0.0001) in patients with ACS underwent primary PCI via TRA and those followed medically.

**Conclusion:** The pre procedural PDW was an independent predictor of both in-hospital and long-term adverse outcomes in patients with ACS underwent primary PCI via TRA.

### ◼ OP-038

**Reduction of Eosinophil Percentage may Predict the Mortality from Acute Coronary Syndromes.**

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**Aim:** Although medical and interventional therapeutic options had provided particular improvement in the management of patients with acute coronary syndrome (ACS). Various parameters which were related with the myocardial damage or systemic inflammatory response had been defined as the criteria for the poor prognosis. Recently eosinophil, basophil had been reported as having a potential role within the interaction of thrombotic process, systemic inflammatory response and tissue damage. We evaluated the whether those parameters could have been utilized as a predictor for the worst prognosis of ACS, mortality.

**Material-Method:** We evaluated the CBC parameters among the patients who suffered death (n=50) or survived (n=29) from ACS.

**Results:** We observed that WBC, MPV, and PDW were significantly elevated and basophil tended to be slightly elevated (p=0.064) while eosinophil% was significantly reduced in mortality group (Table 1, Figure 1). Also we found that eosinophil percentage ≤1.45 could predict the mortality with sensitivity and specificity of 68% and 76%, (AUC=0.776, CI 0.672-0.879, p<0.001). Additionally WBC ≥11.7x103 could predict the mortality with sensitivity and specificity of 70% and 76%, (AUC=0.804, CI 0.709-0.899, p<0.001).

**Conclusion:** Eosinophils are of great interest due to their great potential to trigger thrombotic events and tissue damage by their highly active thrombotic particles which recruit and promote the thrombus formation and infiltration of infarcted myocardial tissue. In this pilot study we evaluated the eosinophil percentage but not the eosinophil count which could be influenced by the extremely higher WBC count. We observed that eosinophil% had reduced in association with mortality which could suggest the reduction due to consumption of eosinophil by degranulation and migrated to the myocardial tissue.
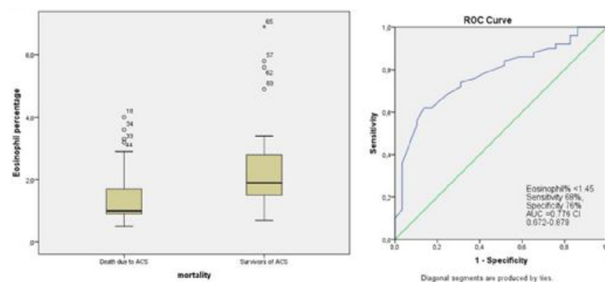


Figure. Comparison of Eosinophil percentages among the patients who suffered death and survived from ACS and predictivity of reduction of eosinophil% for the mortality from ACS.

Table

| | Mortality due to ACS (n=50) | Survivors of ACS (n=29) | p |
|---|---|---|---|
| WBCx103 | 14.7±5.7, 15.1, 3.6-28.7 | 9.1±2.3, 9.6, 5.1-13.2 | <0.001 |
| Eosinophil % | 1.4±0.8, 1.0, 0.5-4.0 | 2.5±1.5, 1.9, 0.7-6.9 | <0.001 |
| Basophil % | 0.7±0.3, 0.6, 0.10-1.50 | 0.6±0.4, 0.6, 0.2-2.4 | 0.062 |

Comparison of WBC, Eosinophil%, and Basophil% among the patients suffered death from ACS and the patients survived from ACS

Eosinophil% ≤1.45 may predict presence of a critical amount of the myocardial damage and also the thrombotic process that could lead the patients' mortality. This parameter should be evaluated in large populated ACS studies.

### ◼ OP-039

**Platelet Indices and Their Predictive Role in the Mortality from Acute Coronary Syndromes.**

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**Aim:** Mortality from acute coronary syndrome (ACS) despite the recent improvements in the therapeutic options and supportive medication may represent severity of the thrombotic processes and also myocardial tissue injury which could not be overcame by the medication. We evaluated the platelet indices such as mean platelet volume, platelet distribution width, and platelet count in patients who presented the coronary care unit and suffered death from ACS and survived from ACS.

**Material-Method:** We evaluated the CBC parameters among the patients who suffered death (n=50) or survived (n=29) from ACS.

**Results:** We observed that WBC (14.7±5.7 vs 9.1±2.3, p<0.001), MPV (8.8±1.1 vs 7.4±2.8, p=0.042), and PDW (16.1±2.8 vs 14.3±2.3, p=0.006) were significantly elevated in patients who dead from ACS compared to patients survived from ACS (Table 1, Figure 1). Also we found that MPV >8.8 could predict the mortality with sensitivity and specificity of 51% and 73%, respectively (AUC=0.638, CI 0.512-0.764, p=0.042) and PDW ≥15.5 could predict the mortality with sensitivity and specificity of 60% and 76%, (AUC=0.684, CI 0.563-0.806, p=0.006).

**Conclusion:** MPV and PDW are the platelet indices which represents active thrombotic process resulted with new formation of platelets with
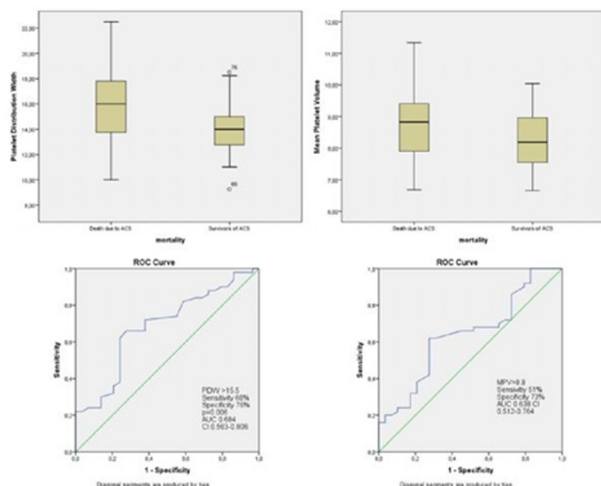
Figure. Comparison of Mean platelet volume and platelet distribution width among the patients who suffered death and survived from ACS and also their predictivity for the mortality from ACS.

Table

|  | Mortality due to ACS (n=50) | Survivors of ACS (n=29) | p |
| --- | --- | --- | --- |
| WBCx1000 | 14.7±5.7, 15.1, 3.6-28.7 | 9.1±2.3 9.6, 5.1-13.2 | <0.001 |
| Platelet Count (x1000) | 234.5±87.1, 235.5, 59-487 | 279.1±98.1, 258, 143-475 | 0.099 |
| MPV | 8.8±1.1, 8.8, 6.6-11.3 | 7.4±2.8, 8.1, 0.7-10.4 | 0.042 |
| PDW | 16.1±2.8, 16.0, 10.0-22.5 | 14.3±2.3, 14.0, 9.2-18.5 | 0.006 |

Comparison of WBC, platelet count, and Mean platelet volume, platelet distribution width among the patients who suffered death or survived from acute coronary syndromes.

increased volume and increased heterogeneity of volume. Higher thrombotic activity represents a higher volume of myocardium jeopardized by continuing ischemia or infarction. Those parameters could be utilized in the context of a panel which was derived from several complete blood count parameters and myocardial injury biomarkers. In fact those parameters should be assessed in large populated studies designed to determine the prognostic factors related with acute coronary syndromes.

## ◼ OP-040

**Inverse Relationship of Eosinophil Percentage with Elevation of Cardiac Troponin may Indicate the Presence of Higher Thrombus Burden and Myocardial Injury.**

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**Aim:** Eosinophils have being recently reported to have significant role in the coagulation, thrombus formation and thromboembolic related
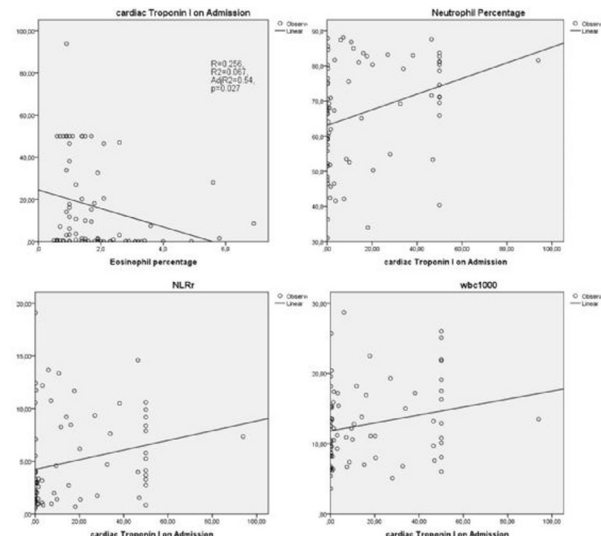


Figure. Relationship of eosinophil, neutrophil, and white blood cell, and neutrophil/lymphocyte ratio with the cardiac troponin on admission.

cardiovascular disease. Also it was reported that eosinophil levels reduced in patients with acute myocardial infarction compared to unstable angina pectoris. In this study we aimed to evaluate the relationhip with the eosinophil percentage and the cardiac troponin levels on admissin.

**Material-Method:** Totally 49 patients who admitted with acute coronary syndrome and developed cardiac death and 29 patients who admitted acute coronary syndromes and survived after the event. We evaluated the relationship of eosinophil percentage and the cardiac troponin levels from the venous blood samples obtained on the admission.

**Results:** We observed an inverse relationship between the eosinophil percentage and cardiac troponin on admission (R=0.256, R2=0.067, AdjR2=0.054, p=0.027). Additionally neutrophil percentage (R=0.310, R2=0.096, AdjR2=0.084, p=0.006) and neutrophil/lymphocyte ratio (R=0.232, R2=0.054, AdjR2=0.041, p=0.044) was positively correlated with cTnI measured on the admission.

**Conclusion:** Eosinophil are called granulocytes due to the granules they contained. Those granules are the deposits of highly active and thrombogenic proteins and tissue factor. They have the potential to activate or aggrevate any thrombogenic process by stimulating platelets by degranulation. We demonstrated that a inverse relationship of eosinophil with cardiac trpoponin. Since troponin levels represents the severity of myocardial injury on admission and further stage of acute myocardial infarction inverse relationship of eosinophil with cTnI may indirectly represent the severity of myocardial injury and also the actual burden of thrombotic process.

## ◼ OP-041

**Platelet to Lymphocyte Ratio can be a Predictor of Infarct-related Artery Patency in Patients with ST-segment Elevation Myocardial Infarction.**

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**Background:** Patency of infarct-related artery (IRA) in patients with STEMI before primary PCI is associated with lower mortality and better