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Volume 65, Issue 10S Acute Coronary Syndromes**ELEVATED RED BLOOD CELL DISTRIBUTION WIDTH WAS ASSOCIATED WITH ATTENUATED ENDOTHELIAL FUNCTION IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION**

Poster Contributions

Poster Hall B1

Monday, March 16, 2015, 9:45 a.m.-10:30 a.m.

Session Title: Conquering the Platelet and More for Better Outcomes

Abstract Category: 2. Acute Coronary Syndromes: Clinical

Presentation Number: 1244-087

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Background: Recent studies have demonstrated that red blood cell distribution width (RDW) was a novel prognostic marker in patients with ST-segment elevation myocardial infarction (STEMI). Endothelial dysfunction can reflect vascular vulnerability. We hypothesized that elevated RDW level was associated with attenuated endothelial function in patients with STEMI.

Methods: We included 192 male patients with STEMI. RDW was derived from a complete blood count drawn at admission, and was considered "elevated RDW" if it exceeded the median value (13.5%). Reactive hyperemia-peripheral arterial tonometry index (RHI) was measured to evaluate endothelial function before discharge.

Results: Mean age was 61.7 ± 12.2 years, and median (interquartile ranges) RDW level was 13.5 (13.2 to 14.0) %. Patients with elevated RDW presented significantly worse endothelial function compared with those with $RDW \leq 13.5\%$ (RHI: 0.616 ± 0.234 versus 0.700 ± 0.259 , $P = 0.02$) (Figure). In multivariate linear regression analysis including age, diabetes, hypertension, smoking, total cholesterol, high density lipoprotein cholesterol, and peak creatine kinase, the value of RDW was inversely correlated with RHI ($\beta = -0.38$, standard error 0.02, $P = 0.035$).

Conclusion: Elevated RDW was significantly associated with worse endothelial function independent from traditional risk factors in patients with STEMI. Attenuated endothelial function might partly contribute to the risk associated with elevated RDW level.

