



i2 SUMMIT

THE PREDICTIVE VALUE OF BASELINE WHITE CELL COUNTS ON MORTALITY IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION UNDERGOING PRIMARY PERCUTANEOUS CORONARY INTERVENTION

i2 Poster Contributions

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Background The association between white blood cell counts (WBCc) and early outcomes after acute myocardial infarction (AMI) undergoing primary percutaneous coronary intervention (pPCI) have been poorly studied. We aimed to evaluate the predictive value of baseline WBCc and early mortality after pPCI.

Methods We analyzed 4,398 consecutive patients presenting with AMI who underwent pPCI from 2003 to 2008. The population was divided by tertiles regarding the baseline WBCc. We explored by multivariable analysis the value of baseline WBCc as continuous variables.

Results Patients with lower WBCc were older and had more frequently history of coronary artery disease and chronic renal failure. (Table 1) However, patients with higher WBCc presented more frequently with cardiogenic shock, had more severe bleeding and red-blood cell transfusion, and higher peak of cardiac enzymes. The rate of death at 30 days was significantly higher in patients with higher baseline WBCc (4.6% vs 5.8% vs 13.6%, for 1st, 2nd and 3rd tertile, respectively; $p < 0.001$). After multivariable adjustment using the relevant co-variables, age (OR=1.06, $p < 0.001$), cardiogenic shock (OR=3.6, $p < 0.001$), normal TIMI flow after PCI (OR=0.01, $p < 0.001$), baseline haematocrit (OR=0.94, $p=0.05$) and WBCc (OR=1.07, $p < 0.001$) strongly predicted mortality at 30 days' follow-up.

Conclusion The presence of an elevated WBCc in patients presenting with AMI undergoing pPCI is associated with a significant increase in the mortality rate at 30 days.

Table 1. Clinical characteristics regarding WBCc tertiles

	Tertile 1 (n=1,449)	Tertile 2 (n=1,437)	Tertile 3 (n=1,512)	P value
Age, (years \pm SD)	65.2 \pm 13.5	62.2 \pm 13.1	60.9 \pm 13.4	<0.001
Men, n (%)	989 (68.3%)	975 (68.0%)	984 (65.2%)	0.13
Diabetes, n (%)	461 (32.1%)	447 (31.4%)	467 (31.2%)	0.84
History of coronary artery disease, n (%)	568 (39.2%)	437 (30.5%)	400 (26.5%)	<0.001
Chronic renal failure, n (%)	247 (17.2%)	181 (12.7%)	218 (14.6%)	0.003
Cardiogenic shock, n (%)	77 (5.4%)	132 (9.3%)	311 (20.9%)	<0.001
CK-MB peak, (mg/dL \pm SD)	34.6 \pm 72.5	50.2 \pm 83.5	82.1 \pm 109.6	<0.001
Baseline hematocrit, (% \pm SD)	38.6 \pm 5.7	39.2 \pm 5.8	39.8 \pm 5.7	<0.001
WBC, (count \pm SD)	6,270 \pm 1,250	9,450 \pm 900	15,320 \pm 6,410	<0.001
Major bleeding, n (%)	53 (3.7%)	73 (5.1%)	123 (8.1%)	<0.001
Red blood cell transfusion, n (%)	114 (8.1%)	141 (10.0%)	187 (12.7%)	<0.001