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Non Invasive Imaging (Echocardiography, Nuclear, PET, MR and CT)

IMPACT OF D-DIMER LEVEL ON MYOCARDIAL INJURY IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION: A MAGNETIC RESONANCE IMAGING STUDY

Poster Contributions
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Background: Little is known about the association of D-dimer level with myocardial injury in patients with ST-segment elevation myocardial infarction (STEMI).

Methods: We analyzed data from 208 consecutive patients treated with primary percutaneous coronary intervention (PCI) and performed cardiac magnetic resonance image (CMR) within a median of 3 days after index procedure. Myocardial infarct size, extent of area at risk (AAR) and myocardial salvage index (MSI) were compared according to the level of D-dimer.

Results: All baseline characteristics were not significantly different between the low D-dimer group (≤0.5 μg/mL, n=133) and the high D-dimer group (>0.5 μg/mL, n=75). In CMR analysis, myocardial infarct size (19.4 ± 11.7 % versus 23.3 ± 10.7 %, p=0.02) and extent of AAR (34.9 ± 16.0 % versus 40.0 ± 17.9 %, p=0.04) were greater but the MSI (46.6 ± 18.8 versus 39.8 ± 16.7, p=0.01) smaller in the high D-dimer group than in the low D-dimer group. Multivariate analysis revealed that high D-dimer level predicted a large myocardial infarct size [odds ratio (OR) 2.55, 95% confidence interval (CI) 1.35-4.81, p<0.01].

Conclusion: In patients undergoing primary PCI for STEMI, a high level of D-dimer may be associated with increased myocardial injury.

Analysis of contrast-enhanced MRI by D-dimer			
	D-dimer ≤ 0.5 μg/mL	D-dimer > 0.5 μg/mL	
Variables	n=133	n=75	P Value
Infarct size (% of LV)	19.4 ± 11.7	23.3 ± 10.7	0.02
Area at risk (% of LV)	34.9 ± 16.0	40.0 ± 17.9	0.04
Myocardial salvage index	46.6 ± 18.8	39.8 ± 16.7	0.01