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Long-term safety and efficacy of Drug-Eluting Stents in STEMI

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BACKGROUND: Meta-analysis of randomized trials showed superior efficacy and similar safety of Drug-eluting stents (DES) over bare metal stents (BMS) in acute ST-elevation myocardial infarction (STEMI) patients. However, long-term relative outcomes of DES vs. BMS have not been fully evaluated.
OBJECTIVES: This study investigated the long-term [3 years] safety and clinical efficacy of patients with STEMI treated with DES or with conventional BMS.
METHODS: Primary PCI was performed with DES in 109 patients [SES-60%, PES-33%]. The control group included 642 patients who were treated using BMS.
Propensity-score analyses were based on clinical and procedural information collected at the time of the index procedure. Patients with cardiogenic shock were excluded. The incidence of death, reinfarction, definite stent thrombosis and repeat revascularization was assessed up to three years.
Results: are shown in the Table.

	BMS(N=642)	DES (N=109)	P
Age (yrs)	61±13	59±12	0.09
Male	81%	87%	0.1
Anterior AMI	47%	64%	0.007
DM	27%	25%	0.7
2/3 Vessel disease	57%	64%	0.4
Post PCI TIMI 3	96%	94%	0.4
Cadillac score	4.5±3.7	4.2±3.3	0.5
One year			
Death	7.7%	5.5%	0.4
Re-MI	8.2%	0%	0.002
Stent thrombosis	4%	0.9%	0.1
TVR	18.2%	5.5%	0.009
MACE	28%	15%	0.004
3 years			
Death	14%	6.6%	0.04
Re-MI	10%	4.6%	0.07
Stent thrombosis	4.6%	4.6%	0.9
TVR	21%	13%	0.04
MACE	35%	22%	0.006

Between one and 3 years 4/642 (0.62%) additional stent thrombosis events occurred in the BMS group as compared to 3/109 (2.75%) in the DES group [p=0.001]. By multivariate analysis adjusted to the CADILLAC score, propensity score and DES use, the CADILLAC score was a significant independent risk for three years mortality while the DES use was not.

CONCLUSIONS: In patients with STEMI, treatment with DES might be related to decreased 3-year unadjusted mortality rates and is associated with a reduction in the need for TVR as compared with BMS treatment. These beneficial results is associated with increased risk of late stent thrombosis between one and 3 years