POSTERS

TCT-440

Diabetes Mellitus And Early And 2-Year Outcomes of Patients With Cardiogenic Shock And Acute Myocardial Infarction – Results From The PL-ACS Registry

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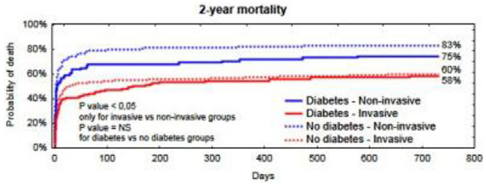
Background: The aim was to compare treatment and clinical outcomes of cardiogenic shock (CS) AMI patients with and without diabetes mellitus.
Methods: We analyzed 896 patients with CS and AMI from PL-ACS registry. Follow-up mortality was obtained from the government database.
Results: Patients with diabetes comprised 23% of CS AMI pts and they were of higher risk profile. Treatments and outcomes are show in the table and figure.

	Diabetes mellitus N=204 (23%)	No diabetes mellitus N=692 (77%)	P value
Mean age, years ± SD	70 ± 11	67 ± 13	0.0029
Female sex, %	47	36	0.0061
History chronic renal disease, %	16	7	0.0002
History of chronic pulmonary disease, %	9	4	0.0082
History of prior myocardial infarction, %	21	14	0.017
STEMI, %	71	77	0.074
Primary PCI, %	61	57	0.25
Bypass surgery (CABG), %	3	3	0.88
Left ventricle ejection fraction, %	37 ± 11	37 ± 14	0.77
In-hospital major bleeding, %	9	9	0.99
In-hospital stroke, %	2,9	1,5	0.26
In-hospital mortality, %	37	48	0.0056
30-day mortality, %	48	59	0.0040
2-year mortality, %	64	69	0.21



Conclusions: Early mortality in cardiogenic shock is lower in patients with diabetes mellitus however after 2 years there is no significant difference between diabetic and non-diabetic patients. Mortality reduction with invasive treatment is similar in patients with and without diabetes.

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A Pathologic Study of Explanted Parachute Devices from Seven Heart Failure Patients following Percutaneous Ventricular Restoration

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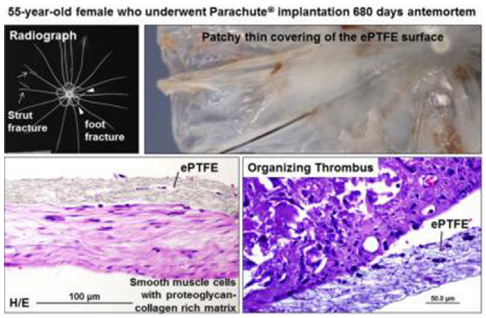
Background: The Parachute® (CardioKinetix Inc., Menlo Park, CA) partitions the left ventricle excluding the scarred myocardium from functioning myocardium, and has shown promise in clinical studies as an adjunctive interventional treatment for heart failure (HF). We sought to evaluate the pathologic findings of the percutaneous Parachute device implanted in patients with severe HF.
Methods: We have examined histopathologically 7 cases (6 males [age 43-74 years; mean 56 years] and one female [55 years]) of Parachute device that were either retrieved at autopsy (n=4) or during transplantation (n=3); implant duration, 15 to 1,533 days.
Results: Three patients died of cardiac causes and none died from complications. Histologic early changes (<30 days, n=1) included adherent thrombus, with focal neutrophil infiltration and degenerating inflammatory cells. Over time (31 to 300 days, n=4) there was organized thrombus and development of neoendocardial thickening especially at the free-edge of the device and its contact with the adjacent endocardium while the base of the device showed varying degrees of fibrin thrombus. The greatest organization of thrombus was observed in devices removed at >300 days (680 and 1533 days) (Figure); both had fractures of the foot along with strut fracture and one had tearing of the ePTFE.
Conclusions: The percutaneous Parachute device appears as a promising adjunctive treatment for patients suffering from severe HF. The pathologic changes are those of organizing thrombus with and without inflammation with minor complications of foot and strut fracture.



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Predictors of mortality in patients with acute myocardial infarction complicated by cardiogenic shock: Can we improve outcomes by proper timing of mechanical circulatory support?

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Background: Cardiogenic shock remains a serious complication of acute myocardial infarction (AMI). Mechanical support with intra-aortic balloon pump (IABP) after revascularization has recently failed to improve outcomes. We sought to determine predictors of in-hospital mortality and develop a clinical risk score for shock patients with AMI enrolled in our institutional shock registry.
Methods: One hundred and two consecutive patients with cardiogenic shock due to AMI treated with primary percutaneous coronary intervention (PCI) and IABP-support were analyzed. Univariate and multivariate logistic regression analysis was used to identify independent predictors of in-hospital mortality. Logistic regression analysis and receiver-operating characteristic curve were used to generate a mortality score.
Results: The mean age was 70.1±11.4 years; 70% were males. One third (32.4%) had a non-ST segment elevation myocardial infarction and 30.4% were resuscitated before PCI. Mean left ventricular ejection fraction was 24.7±10.6%, 59.8% of patients received vasopressors and 22.5% developed acute renal failure. In 52% of patients IABP therapy was initiated after primary PCI, while the remaining patients had an IABP-assisted primary PCI. In-hospital mortality was 40.2%. Using multivariate analysis, age (odds ratio [OR] 1.08, 95% confidence interval [CI] 1.02-1.15), resuscitation before PCI (OR 3.46, 95%CI 1.03-11.62), vasopressor use (OR 7.88, 95%CI 2.01-30.88), acute renal failure (OR 11.18, 95%CI 2.71-46.07) and IABP-implantation after PCI (OR 4.36, 95%CI 1.39-13.62) were independently associated with in-hospital mortality. Based on these predictors a mortality-risk score was calculated as follows: 1.5 x IABP-Timing (before PCI = 0; after PCI =1) + 0.1 x (age) + resuscitation before PCI (no = 0; yes = 1) + 2 x vasopressor use (no = 0; yes = 1) + 2.5 x acute renal failure (no = 0; yes = 1). Using a cut-off value of 10.4, this score had a specificity of 83% and a sensitivity of 82% for prediction of in-hospital death.
Conclusions: The timing of IABP insertion was the only modifiable factor predicting in-hospital mortality in our cohort. This point deserves consideration when interpreting the results of IABP trials.