Impact of pre-hospital resuscitation on short-and long-term mortality in patients with cardiogenic shock and multivessel disease. Results of the CULPRIT trial

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Background: There are only a few prospective data on the outcome of patients with cardio-pulmonary resuscitation (CPR) admitted with acute myocardial infarction (AMI) complicated by cardiogenic shock and an invasive strategy including primary percutaneous coronary intervention (PCI). Therefore, we evaluated the impact of pre-hospital CPR on outcomes in a large group of patients with AMI complicated by cardiogenic shock.

Methods: We used the data of the prospective CULPRIT-Shock trial and registry and including patients with acute myocardial infarction complicated by cardiogenic shock. The primary endpoint was 30-day mortality or renal replacement therapy.

Results: Between 2013 and 2017, a total of 1055 patients were included in the randomized trial (n=686) and in the registry (n=369), 550 (54%) had CPR, 40 had no information regarding CPR. Baseline characteristics, procedural features and outcomes in the two groups with and without CPR are given in the table.

Conclusion: Patients with pre-hospital CPR represent more than half of the population with AMI complicated by cardiogenic shock. They are younger, have less risk factors and more often LAD as infarct vessel. Despite the younger age and a high success rate of PCI patients with CPR have a high 30-day mortality.

Patient characteristics and outcome

	Prehospital CPR (n=550)	No prehospital CPR (n=465)	p-value
Age (years)	65.0	70.0	0.001
Women	21.1%	29.7%	0.002
GFR <30 ml/min	4.8%	7.9%	0.043
Diabetes	26.6%	34.2%	0.009
STEMI or LBBB	73.7%	72.3%	0.6
3-vessel disease	55.3%	55.7%	0.9
IRA LAD	48.0%	37.7%	0.001
TIMI 0/1 before PCI	66.5%	72.2%	0.6
TIMI 3 after PCI	85.4%	82.2%	0.3
30-day mortality or renal replacement therapy	51.2%	48.5%	0.4
30-day mortality	48.4%	45.2%	0.3