CORONARY ANGIOGRAPHY AFTER ROSC: IS ECG WITHOUT STEMI STILL AN OPEN QUESTION?

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BACKGROUND

Despite the improvement on the field and in the intensive care unit, the survival rate of OHCA remains poor. The main cause of OHCA is myocardial ischemia. If the first ECG after ROSC is STEMI the guidelines recommend the early CA, what about no-STEMI it's still an open question.

METHODS

We retrospectively analyzed data from our registry, Trieste Cardiac Arrest Registry, which collects the cases of OHCA of presumed cardiac origin. We compare two population of no-STEMI, who underwent to CA and who did not. All patients with shockable rhythm and STEMI ECG after ROSC immediately underwent to CA. No-STEMI patients underwent to CA within 2 hours if clear ischemic causes were present or previously subjected to a fast rule out of extra cardiac etiology at ER.

RESULTS

From 2011 to 2015 in Trieste we collected 544 cases of OHCA, first rhythm was shockable in 29.7%, ROSC was present in 33.9%. STEMI patients was 38% and no-STEMI 62%. All STEMI patients underwent CA, in the 27.5% CAD was >50% and 100% in 67.5%, 68% were treated with PCI.

POPULATION		STEMI 62 PTS	
	544 pts (%)		38 pts (%)
VF/VT	29.7	CA	100
ROSC	33.9	CAD>50%	27.5
STEMI	38	CAD 100%	67.5
NO-STEMI	62	PCI	68

No-STEMI patients, 52.5% had ischemic myocardial disease, myocardial dysfunction was present in 36.8%, 74% did echocardiography, 32.1% did CT to exclude other causes. The 55% underwent CA, CAD was < 50% in 16.3%, ≥ 50% in 27.9% and occlusive in 34.9%. We treated with PCI the 11.3% and TTM the 42.1% of no-STEMI patients.

Among no-STEMI patients we compared who underwent CA and who did not. Who did CA had higher prevalence of shockable rhythm (61 vs 25, p0.001) and a better chance of discharge (53 vs 30, p0.040), survival rate at 30 days (61.4 vs 36, p0.025) at 1 year (38.6 vs 16.7, p0.031) and better neurological outcome (47 vs 36, p0.296).

NO STEMI 62 PTS	
	%
CPT ischemic	52.5
EF <55	36.8
TEE HR	74
CT	32.1
CA	55
CAD<50	16.3
CAD ≥ 50	27.9
CAD 100	34.9
PCI	11.3
TTM	42.1

CORONARY ARTERY DISEASE

	CA	No CA	p
VF/VT	61	25	0.001
H disch	53	30	0.040
30 days	61.4	36	0.025
1 year	38.6	16.7	0.031
CPC 1-2	47	36	0.296

CONCLUSION

The study of no-STEMI patients with CA had strong impact on their survival, due to PCI or focusing on other therapies. All patients who survived OHCA of suspected cardiac origin, should be referred to a center with the availability of CA, regardless of post-ROSC ECG.