Acute coronary syndrome in elderly patients - prognostic impact of revascularization

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INTRODUCTION

The proportion of patients with acute coronary syndrome (ACS) who are very old is increasing. The care of the elderly patients is more complex than that of younger. The older patients are a therapeutic challenge because they are rarely included in randomized clinical trials.

PURPOSE

Determine clinical presentation, therapeutic approach and prognosis in a population of octogenarians (Oct) with ACS

METHODS

- Retrospective study of **2064 patients** admitted for ACS in a coronary unit over a period of 4 years
- **2 groups** were defined according to age: **younger** (age < 80 years) and **Oct** (age ≥ 80 years)
- Analysis of Oct according to therapeutic approach: percutaneous/surgical (n = 177) vs medical (n = 92)
- Minimal follow-up of six months

RESULTS

	OCT (n=2064)	YOUNG (n=1795)	p
Demographics			
Age (years, mean ± sd)	83.9 ± 3.4	60.9 ± 11.4	
Male gender (%)	52.8	81.1	<0.001
Medical history (%)			
Arterial hypertension	83.6	61.5	<0.001
Type 2 diabetes mellitus	27.1	27.7	NS
Dyslipidemia	49.8	57.3	0.02
Chronic kidney disease	12.1	3.2	<0.001
Myocardial infarction	21.9	14.0	0.001
Stroke	15.6	6.2	<0.001
Clinical presentation			
NSTEMI (%)	51.3	44.8	0.045
Multivessel disease (%)	62.7	52.8	0.005
Creatinine (mg/dl, mean ± sd)	1.21 ± 0.48	1.00 ± 0.39	<0.001
Hemoglobin (g/dl, mean ± sd)	12.6 ± 1.98	14.0 ± 1.76	<0.001
NT-proBNP (pg/ml, mean ± sd)	6528 ± 8007	1406 ± 4908	<0.001
LVEF < 40% (%)	46.7	28.8	<0.001

Table 1 – Baseline patients characteristics
LVEF = left ventricular ejection fraction, NSTEMI = non ST elevation myocardial infarction, SD = standard deviation.

	OCT (n=2064)	YOUNG (n=1795)	p
Beta-blockers (%)	73.2	89.1	<0.001
ACE/ARB2 inhibitors (%)	85.1	90.1	0.012
Statins (%)	95.2	98.8	<0.001
Aspirin (%)	99.3	99.4	*NS*
Clopidogrel (%)	95.9	98.7	0.001
Revascularization (%)	65.8	82.4	<0.001
CABG (%)	7.4	13.2	0.007
PCI (%)	58.4	69.2	<0.001

Table 2 – In-hospital treatment
ACE = angiotensin converting enzyme, ARB2 = angiotensin II receptor blockers, CABG = coronary artery bypass grafting, PCI = percutaneous coronary intervention.

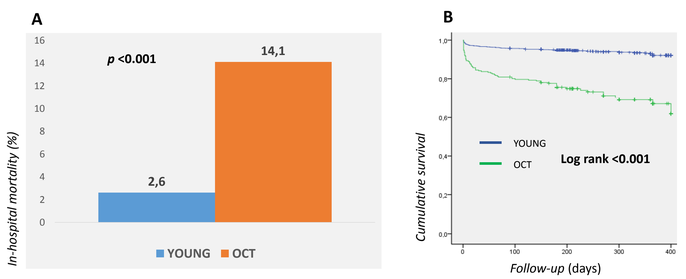

Figure 1 In-hospital mortality (A) and survival analysis by Kaplan-Meier curves, according to age (B).

In a sub-analysis of Oct there were no significant differences in the demographic characteristics.
Myocardial infarction without ST segment elevation is more common in Oct non revascularized (73.6% vs 39.5%, *p* <0.001).
The Oct non revascularized had the highest prevalence of Killip class ≥ 2 on admission (52.7% vs 40.1%, *p* = 0.049) and moderate to severe left ventricular dysfunction (56.1% vs 42%, *p* = 0.034).

The in-hospital mortality (22% vs 10.2%) and at 6 months (37.1% vs 25.1%) were higher in the non revascularized Oct.

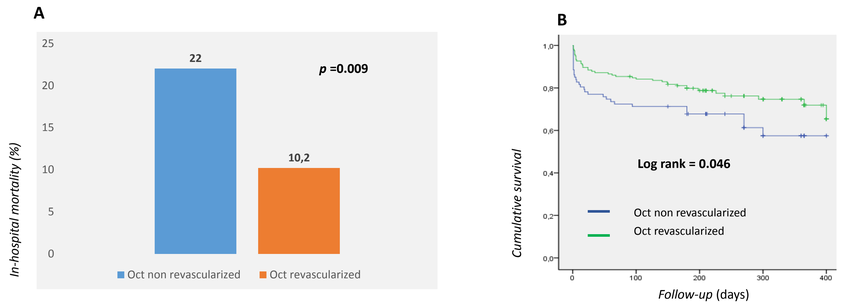

Figure 2 In-hospital mortality (A) and survival analysis by Kaplan-Meier curves, according to the therapeutic approach (B).

After multivariate analysis, the absence of revascularization was not a predictor of mortality.

	OR (IC95%)
Killip class ≥ 2 on admission	3.6 (1.3-9.8)
Left ventricular dysfunction	6.0 (1.1-31.1)
GFR ≤ 60ml/min	5.9 (1.9-18)

Table 3 – Independent predictors of in-hospital mortality

	OR (IC95%)
Left ventricular dysfunction	2.5 (1.1-6.0)
In-hospital heart failure	3.6 (1.6-7.9)
Absence of beta-blocker therapy	3.6 (1.6-7.9)

Table 4 – Independent predictors of mortality at 6 months

CONCLUSION

In this review, the elderly had worse prognosis and were less likely to receive evidence-based therapy. Although mortality was higher in octogenarians patients under medical treatment, the absence of revascularization was not an independent predictor of mortality in this population.

The authors have no conflicts of interests to declare