Non-ST elevation myocardial infarction in patients with previous CABG: what is the best treatment option?

L. Oliveira[1], C. Machado[1], C. Almeida[1], M. Fatima Loureiro[2], D. Martins[1]

[1]*Hospital Divino Espirito Santo, Cardiology, Ponta Delgada, Portugal;* [2]*Portuguese Society of Cardiology, Lisbon, Portugal*

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Background: Current European Society of Cardiology guidelines recommend an invasive strategy (IS) for the treatment of non-ST elevation myocardial infarction (NSTEMI) patients, but the clinical trials that support this recommendations included only a few patients with previous coronary artery bypass graft (CABG).

Purpose: To characterize NSTEMI patients with previous CABG who underwent medical and invasive management and to evaluate the prognostic impact of the type of strategy used.

Methods: Retrospective analysis of a cohort of patients from a multicenter national registry diagnosed with NSTEMI with a previous history of CABG between 2010 and 2021. Patient's baseline demographics, medical history and in-hospital management data was collected. Outcomes of in-hospital and six months follow-up all-cause mortality were accessed.

Results: A total of 890 patients were included in the analysis. Of these, 470 were medically managed (MM) – this group included 249 patients (53.1%) who underwent coronary angiography but did not perform any further revascularization. The remaining 420 underwent an invasive strategy (IS) and performed additional revascularization, mainly percutaneous (only 1 patient submitted to reCABG). Mean age was similar (MM 72±10 vs IS 71±10 years, p=0.147) and most patients were male (MM 81.5% vs IS 83.8%, p=0.362). MM patients had more chronic kidney disease (16.7% vs 9.9%, p=0.003), peripheral artery disease (20.5% vs 15.0%, p=0.003) and heart failure (20.5% vs 11.9%, $p<0.001$). Main presenting symptom was chest pain in both groups, however it was more frequent in the IS group (89.4% vs 94.5%, p=0.006) and dyspnea in the MM patients (6.3% vs 3.1%). Mean left ventricle ejection fraction was similar between groups (MM 49±12% vs IS 50±11%, p=0.290). Although the GRACE risk score was available for only 124 patients, high risk patients (GRACE score >140) were equally distributed among the two groups (55.9% vs 48.2%, p=0.395). An IS was associated with significant lower in-hospital mortality (4.5% vs 1.7%, OR 0.37, 95% CI 0.15–0.87, p=0.018). At six months follow-up an IS was also associated with lower mortality (6.6% vs 2.4%, HR 0.18, 95% CI 0.06–0.52, p=0.002), even after adjusting for the baseline differences (HR 0.41, 95% CI 0.20–0.85, p=0.016).

Conclusions: In this cohort of patients with NSTEMI and previous CABG, an IS was linked to better outcomes during hospitalization and during six months follow-up. Randomized clinical trials are needed to address this issue.