

## Short Communication

# MINI OPCAB and OMT in High Risk Patients with Multivessel Coronary Disease a Prospective Study

Federico J Benetti\* and Natalia Scialacomo

Department of Cardiac Surgery, Benetti Foundation, Argentina

## Abstract

Although conventional surgical revascularization can be carried out in old patients with acceptable short- and long-term results, preoperative mortality is markedly elevated. The MINI OPCAB technique is an operation where we connected the left internal mammary to LAD artery through a small incision in the lower part of the sternum and the long term results were previously described during the last seven years. 14 high risk patients with multivessel coronary disease prospectively enrolled received a MINI OPCAB operation. Left mammary to the LAD bypass plus maximal medical treatment and strictly risk factor controls. The average age was 71.07 (st D 9,051 CI 95%), 21% were females. The preoperative Logistic Euro score was 10.68 (st D 5,407 CI 95%). The operative mortality was 0% in this group of patients. The incidence of preoperative infarction was 0%. Asymptomatic MACE in this group of patients at 80 months was 0%. We lost one patient at 85 years old due to a cerebrovascular accident at almost 5 years (62 months) after the operation, the survival rate (K-M) at 80 months was 82%. We strongly believe the combination of a MINI OPCAB operation in high risk patients with multivessel coronary disease and optimal medical treatment is a valuable option for this type of patients. More experience is needed to confirm this data.

**Keywords:** Multivessel coronary disease; MINI OPCAB; Revascularization

## Introduction

Old patients with multivessel Coronary Artery Disease (CAD) are a challenging group to treat; these cases elicit discussion within heart teams regarding the actual benefit of undertaking major surgery on these patients and often lead to abandon the surgical option. Since these patients usually present with age-related comorbidities, preoperative risk stratification is mandatory and less invasive treatment options are favorable. Although conventional surgical revascularization can be carried out in old patients with acceptable short- and long-term results, preoperative mortality is markedly elevated [1]. For high-risk patients with multivessel CAD, not eligible to on-pump complete revascularization surgery or percutaneous procedures, incomplete revascularization with OPCAB LIMA-on-LAD offers benefits in survival when compared to OMT (Optimal Medical Treatment) alone [2]. MIDCAB is an effective approach for managing high-risk patients with symptomatic three-vessel coronary artery disease. Longer follow-up is needed to further clarify patient selection and the long-term outcome of this approach [3,4].

The MINI OPCAB technique is an operation where we connected the left internal mammary to LAD artery through a small incision in the lower part of the sternum and the long term results were previously described [5]. The objective of this prospective study was to show the results and survival during a follow-up in a group of high-risk patients

with Multivessel disease treated with the MINI OPCAB operation and maximal medical treatment during the last 7 years in our Foundation.

## Patients and Methods

During the last seven years 14 high risk patients with multivessel coronary disease prospectively enrolled received a MINI OPCAB operation. Left mammary to the LAD bypass plus maximal medical treatment and strictly risk factor controls. The average age was 71.07 (st D 9,051 CI 95%), 21% were females. The preoperative Logistic Euro score was 10.68 (st D 5,407 CI 95%). The patients were strictly followed monthly in the Clinic of the Foundation by the Heart Team.

## Results

The operative mortality was 0% in this group of patients. The incidence of preoperative infarction was 0%. The average time of the operation was 2 hours and 20 minutes. Ten (71%) of the patients were exhibited in the operating room. The average time of Hospitalization was two days and eleven hours. One patient at 30 days received a PTCA STENT in the Right Coronary artery, was a very big artery and the patient started again with angor after the procedure; he continues asymptomatic MACE in this group of patients at 80 months was 0%. We lost one patient at 85 years old due to a cerebrovascular accident at almost 5 years (62 months) after the operation, the survival rate (K-M) at 80 months was 82% (Figure 1).

## Discussion

The primarily supposed benefit of off-pump surgery in elderly patients is still undetermined [6]. In selected patients with Multivessel Disease (MVD), MIDCAB can be reasonable with concomitant Percutaneous Coronary Intervention (PCI) as a hybrid procedure [7,8]. To date, the 2014 ESC/EACTS guidelines on myocardial revascularization judge hybrid revascularization as reasonable only in selected patients when PCI of the LAD is not an option and conventional CABG is associated with an increased surgical risk [9].

During a total of 6.3 (median, 4.9) years of follow-up, the primary composite outcome of all-cause mortality, myocardial infarction,

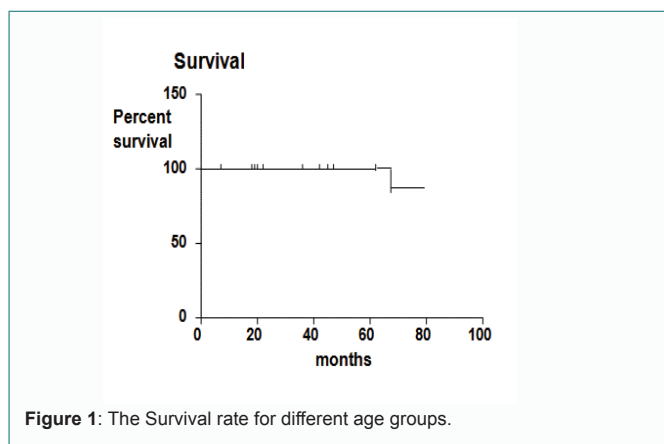
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**\*Corresponding author:** Federico J Benetti, Department of Cardiac Surgery, Benetti Foundation, Alem 1846, Rosario, 2000, Argentina, E-mail: federicobenetti@hotmail.com



stroke, or repeat revascularization occurred in 26% (141/550) and 34% (179/529) of patients in the CABG and PCI groups, respectively (Hazard Ratio (HR), 0.75; 95% Confidence Interval (CI), 0.60 to 0.94;  $P=0.012$ ). CABG was associated with fewer myocardial infarction (4% vs. 8% for PCI; HR, 0.48; 95% CI, 0.29 to 0.80;  $P=0.037$ ); and repeat revascularizations (8% vs. 17% for PCI; HR, 0.44; 95% CI, 0.31 to 0.64;  $P<0.001$ ), but had little association with all-cause mortality or stroke [10]. For high-risk patients with multivessel CAD, not eligible to on-pump complete revascularization surgery or percutaneous procedures, incomplete revascularization with OPCAB LIMA-on-LAD offers benefits in survival when compared to OMT alone.

Patients who underwent OPCAB survived more than those discharged in optimal medical treatment [2], considerably more data are available concerning the outcome of old patients undergoing CABG. Sen et al. [11], compared the outcome of 240 octogenarians with matched younger patients in a retrospective two-centre analysis. They found a statistically significant higher 30-day mortality rate of 6.8% in the elderly patients. Age was identified as a risk factor for early death. Gunn et al. [12] reported a 30-day mortality rate of 8.8% in octogenarians after CABG in a retrospective analysis where preoperative strokes were significantly more frequent than in younger patients (5.5% vs. 1.6%). We strongly believe the combination of a MINI OPCAB operation in high risk patients with multivessel coronary disease and optimal medical treatment is a valuable option for this type of patients more experience is needed to confirm this data.

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