



Clinical Outcomes Of Octogenarians After Robotic-assisted Coronary Artery Bypass Grafting



Main Line Health®

Lankenau Medical Center

Gianluca Torregrossa¹, Massimo Baudo², Serge Sicouri², Basel Ramlawi¹, Leila Hosseinian¹, Courtney Murray¹, MaryAnn Wertan¹, Stephanie Kjelstrom², Francis Sutter¹

1. Lankenau Heart Institute, Main Line Health, Wynnewood, PA, USA ; 2. Lankenau Institute for Medical Research, Main Line Health, Wynnewood, PA, USA

Introduction

Given the heightened susceptibility to myocardial infarctions among octogenarians, it's plausible to consider that CABG could offer a more effective approach due to the surgical “collateralization”. Yet, for many of these patients, the perceived risks associated with surgery are deemed excessively high, leading to a more frequent selection of PCI. Presently, there isn't a definitive guideline recommending the best invasive treatment for octogenarians with coronary artery disease. Hence, the aim of the current analysis was to assess the short and mid-term outcomes of a large octogenarian population who underwent robotic-assisted CABG.

Methods

We identified all consecutive octogenarian patients who underwent robotic-assisted CABG between May 2005 and June 2021 at our institution. Patients had either isolated proximal LAD artery disease or multivessel disease in which the non-LAD artery disease was amenable to PCI with DES. The primary outcome was the analysis of all-cause death after robotic-assisted CABG. The secondary outcome consisted in major adverse cardiovascular and cerebrovascular events (MACCE) defined as a composite of death, myocardial infarction, stroke, and repeat revascularization.

Results

Preoperatively, mean age was 83 (± 2.9) years-old, and mean STS-PROM risk score was 3.6% (2.1-6.6). Intraoperatively, 478 (95.6%) patients received 1 LITA, 14 (12.8%) received bilateral ITA, and 8 (1.6%) received a saphenous venous graft. A total of 303 (60.6%) patients received multiple arterial revascularizations, while 140 (28%) received HCR. A total of 376 (75.2%) patients were extubated in the operating room. Postoperatively, 2 (0.4%) patients experienced a non-fatal stroke, 6 (1.2%) had reoperation for bleeding, and 12 (2.4%) had renal failure. There was no 30-day mortality, while 1 (0.2%) patient had PCI with DES on LITA-LAD anastomosis due to graft failure. At a mean-follow-up of 2.9-years incidence of all-cause death was 103 (20.6%), MACCE 136 (27.2%), stroke 8 (1.6%), myocardial infarction 16 (3.2%), and repeat intervention with stents 39 (7.8%). There was no repeat surgical intervention, while PCI with DES for at least 1 non-surgical target vessel was 14/39 (35.9%) patients.

Conclusions

In this single center study reported the outcomes from the most extensive collection of data on robotically assisted CABG in octogenarian patients, whether performed as a standalone procedure or as part of a hybrid revascularization. Our results demonstrated that perioperative surgical outcomes resembled those of PCI, while long-term outcomes mirrored those of traditional CABG, thus offering a blend of advantages from both approaches.

