

Percutaneous coronary intervention with everolimus-eluting stents versus coronary artery bypass surgery in patients with stable angina and an isolated proximal left anterior descending artery disease

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Funding Acknowledgement: Type of funding source: None

Background/Introduction: Revascularization of the proximal segment of left anterior descending artery (pLAD) demonstrates an additional prognostic significance in survival for patients with multivessel disease. It is also indicated for symptomatic relief in patients with stable angina who are receiving optimal medical treatment in the presence of limiting angina or angina equivalent. Both coronary artery bypass grafting (CABG) and percutaneous coronary intervention (PCI) are still commonly needed as therapeutic options for pLAD disease.

Moreover, Everolimus-eluting stents (EES) have demonstrated superiority in safety and efficacy among other types of second or new generation drug-eluting stents.

Purpose: We aim to evaluate the long-term outcomes of PCI with EES compared to CABG surgery with left internal mammary artery, in patients with stable angina and an isolated single vessel pLAD disease.

Methods: The sample consisted of 824 patients with isolated pLAD and chronic stable angina; 445 participants were included in the EES-PCI group, and 379 were included in the CABG group. The study's primary endpoint was the occurrence of major adverse cardiac events (MACEs), namely, cardiac death, myocardial infarction (MI) not attributed to a non-target vessel and target lesion revascularization as a composite index. Secondary endpoints were Patient-Related Outcome (PRO; a composite index of all-cause mortality, any MI related to any coronary artery, any revas-

cularization conducted to any coronary artery), individual components of MACEs, recurrence of stable or unstable angina or a nonfatal arrhythmia and disease progression of other lesions. For the comparisons between the two groups, chi-square tests and Fisher's exact tests, were used, as appropriate.

Results: During the 4.6 years of follow-up period, no statistically significant difference was observed between the two study groups in respect to the primary endpoint MACE (8.1% versus 7.4%, $p=0.71$). Concerning secondary endpoints, repeat revascularization (3.6% versus 2.9%, $p=0.58$), cardiac death (2.9% versus 3.2%, $p=0.84$), MI (1.6% versus 1.3%, $p=0.76$) and PRO (16.9% versus 17.7%, $p=0.76$) did not significantly differ between the two groups. Recurrence of angina was more frequent in the EES-PCI group (14.9% versus 8.4%, $p=0.005$) even though higher Class of angina was found less common in EES patients than in CABG patients ($p<0.001$). Patients treated with EES-PCI had lower rates of onset of arrhythmias compared to those treated with CABG (6.3% versus 11.9%, $p=0.005$). Finally, revascularization in other than target lesion was more frequent in the stent than in the surgery arm (6.3% versus 3.2%, $p=0.04$); as a consequence, higher rates of revascularization in any vessel was recorded in the PCI group than the CABG one (9.9% versus 5.8%, $p=0.03$).

Conclusion: PCI with EES seem to have similar long-term clinical outcomes compared with CABG in patients with isolated pLAD disease.