Abstract: P2802

Second-generation drug-eluting stents versus coronary artery bypass surgery in patients with stable angina and an isolated lesion in the proximal left anterior descending artery

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Background/Introduction: Both coronary artery bypass grafting surgery (CABG) and percutaneous coronary intervention (PCI), especially with the use of new-generation drug-eluting stents (DES), remain the most common therapeutic options of coronary artery disease, especially when the proximal segment of left anterior descending artery (pLAD) is involved. There are only a small number of studies comparing these approaches in patients with isolated lesions in LAD.

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

Methods: The study population consisted of 1010 consecutive patients with stable angina and an isolated pLAD that were treated either with PCI with second generation (zotarolimus or everolimus) DES (631 patients) or with CABG surgery (379 patients). The primary endpoint was the occurrence of any major adverse cardiac event (MACE) namely cardiac death, non-fatal myocardial infarction and target lesion revascularization (using either percutaneous or surgical technique) as a composite index. Other evaluated main clinical outcomes were the components of MACE, patient-related outcome (PRO-a composite index of all-cause mortality, any myocardial infarction, any revascularization), recurrence of stable angina and arrhythmias occurrence.

Results: Lower rates of in-hospital complications (0.3% versus 12.1%, p<0.001) and shorter hospitalization [median, 1 (interquartile-range: 1-4) versus 8 (interquartile-range: 7-11), p<0.001] were recorded in the PCI group compared with the surgery arm. During the follow-up period (mean, 4.6±2.5 years), no statistical difference was observed in respect to MACE between the two study groups (10.1% versus 7.4%, p=0.14). Higher rates of repeat revascularization were detected in patients treated with PCI than those treated with CABG (5.5% versus 2.9%, p=0.05). Concerning other secondary endpoints, cardiac death (2.9% versus 3.2%, p=0.78), myocardial infarction (1.7% versus 1.3%, p=0.60), and PRO (18.9% versus 17.7%, p=0.64) did not differ in a statistically significant manner between the two techniques. Recurrence of stable angina was significantly increased in PCI (15.6% versus 8.4%, p=0.001), whereas arrhythmias occurrence was most common in the surgery group (6.3% versus 11.9%, p=0.002). Conclusion: PCI with second-generation DES seem to have similar long-term clinical outcomes compared with CABG in patients with isolated LAD disease, highlighting the excellent long-term outcomes of both therapeutic approaches.