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Clinical outcomes of state-of-the-art percutaneous coronary revascularization in patients with three-vessel disease: 3-year follow-up of the SYNTAX II study

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Background
The clinical implication of state-of-art PCI at long term follow-up in patients with three vessel disease is undetermined.

Purpose
The purpose of the study was to investigate whether the favourable outcomes of state-of-the-art PCI in the SYNTAX-II trial, demonstrated up to 2 years, are maintained at 3-year follow-up.

Methods
The SYNTAX-II study was a multicentre, single arm study that investigated the impact of a state-of-art PCI strategy on clinical outcomes in patients with de novo three vessel coronary artery disease, without left main disease. State-of-art PCI includes: heart team decision-making utilizing the SYNTAX score II, hybrid iFR-FFR decision-making strategy, intravascular ultrasound guided stent implantation, contemporary chronic total occlusion revascularization techniques and guideline-directed medical therapy. The primary endpoint is major adverse cardiac and cerebrovascular events (MACCE – a composite of all-cause death, any stroke, myocardial infarction, or revascularization) at 3 years. Clinical outcomes in SYNTAX-II were compared to the predefined PCI (SYNTAX-I PCI) and coronary artery bypass graft (SYNTAX-I CABG) cohorts from the
landmark SYNTAX Trial (SYNTAX-I), selected on the basis of equipoise for long-term (4-year) mortality utilising the SYNTAX Score II.

Results

Between February 2014 and November 2015, 454 patients out of 708 screened patients were enrolled in SYNTAX-II. In SYNTAX-I, 643 (58.8%) patients with 3VD without left main disease had an equipoise recommendation for CABG or PCI based on the SYNTAX Score II and were used as the comparator. At 2 years, MACCE rate in SYNTAX-II was significantly lower compared to SYNTAX-I PCI (13.2% vs. 21.9%, p = 0.001). Furthermore, similar two-year outcomes for MACCE were evident between SYNTAX II-PCI and SYNTAX-I CABG (13.2 vs. 15.1%, p = 0.42). Three-year results will be presented at ESC2019.

CONCLUSIONS

Three-year results of his study may offer an attractive option of revascularization strategy in predefined patients with de novo 3VD (SYNTAX Score II inclusion) even if the patients have moderate to severe anatomical complexity (anatomic SYNTAX score >22).