IMPACT OF PERCUTANEOUS CORONARY INTERVENTION WITHIN 6 MONTHS PRIOR TO TRANSCATHETER AORTIC VALVE REPLACEMENT: A MULTICENTER CENTER STUDY WITH CENTRAL ANGIOGRAPHIC CORE LABORATORY ANALYSIS

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Background: There is little data on the impact of pre-procedural percutaneous coronary intervention (PCI) on transcatheter aortic valve replacement (TAVR) outcomes.

Methods: The study population consisted of consecutive patients with a pre-procedural coronary angiogram who underwent transfemoral (TF) or transapical (TA) TAVR with an Edwards transcatheter heart valve at 2 centers in North America, between 2007 and 2012. The subjects were divided into 2 groups: 1) those who underwent a PCI deemed clinically indicated by the heart team within 6 months prior to TAVR (Group 1, N=98 patients); 2) all other patients (Group 2, N=285 patients). All pre-TAVR coronary angiograms were analyzed by an independent angiographic core laboratory (ACL). Clinical and echocardiographic outcomes were compared between the 2 groups, according to Valve Academic Research Consortium definitions.

Results: In the overall population, the mean patient age was 84 years and TAVR was performed by the TA route in 52.2% of cases. Although mean STS score (8.5% vs 8.5%, p=0.77) and baseline SYNTAX score (22.0 vs 18.5, p=0.92) were similar between the group 1 and group 2, there were differences in baseline characteristics between the 2 groups: female sex (60.2% vs 43.7%, p=0.005), history of prior MI (44.9% vs 29.1%, p=0.004), hyperlipidemia (90.8% vs 78.2%, p=0.02), atrial fibrillation (16.8% vs 29.9%, p=0.01) and prior CABG (30.6% vs 47.4%, p=0.004). The PCI was performed in group 1 an average of 64.2 days prior to TAVR. In group 1, there was a trend toward lower 30-day all-cause mortality (4.1% vs 9.5%, p=0.09) and significantly lower 1 year all-cause mortality (10.4% vs 24.2%, p=0.004). After multivariable analysis, PCI within 6 months remained an independent predictor of 1 year mortality (HR=0.48, p=0.03). The occurrence of major bleeding complications (6.4% vs 7.4%, p=0.75), major vascular complications (3.1% vs 7.7%, p=0.11), and stage 3 acute kidney injury (AKI) (1.0% vs 1.1%, p=1.00) after TAVR was similar between the 2 groups.

Conclusion: In this ACL-validated, multicenter study, performing TAVR within 6 months after a PCI seems feasible and safe. The impact of revascularization on late mortality needs to be further investigated.