Treatment Strategies in Patients with Stable Obstructive Coronary Artery Disease and Severe Aortic Valve Stenosis Who Underwent TAVR

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Background

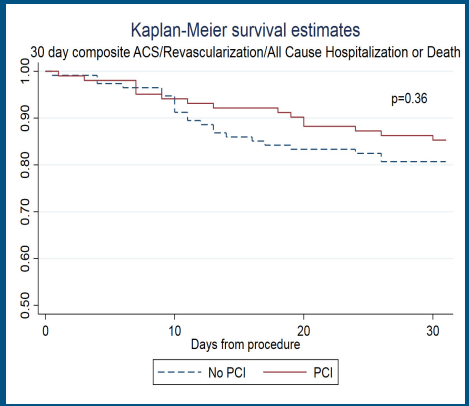
Obstructive coronary artery disease (CAD) is frequently detected in the work up of severe aortic valve stenosis (AS), and coronary artery bypass is commonly performed during surgical aortic valve replacement. Clinical equipoise remains whether percutaneous coronary intervention (PCI) for CAD should be routinely performed prior to trans-catheter aortic valve replacement (TAVR) valve

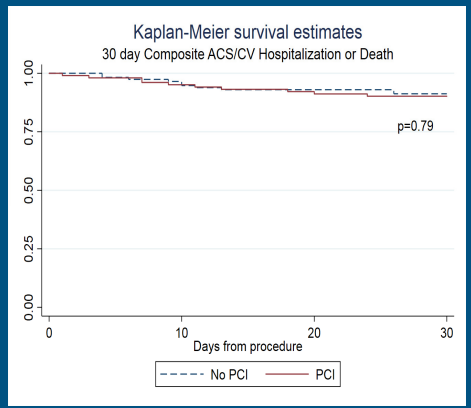
Methods

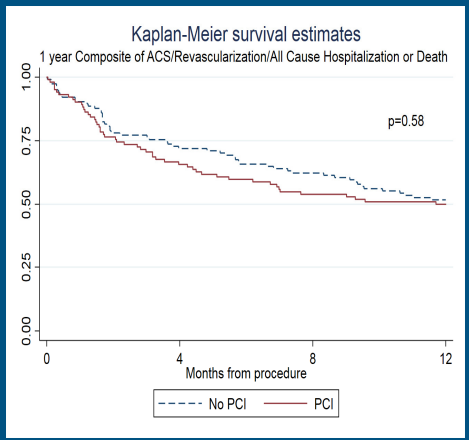
Native severe CAD was defined as ≥70% angiographic stenosis in the proximal two-thirds of the major coronary arteries or branch vessel ≥ 2.5 mm diameter, and ≥ 50% stenosis in the left main coronary artery in patients with no prior revascularization. The association between PCI and the composite outcomes of acute coronary syndrome, repeat revascularization, re-hospitalization, and all-cause death at 30 days and 1-year following TAVR was examined using Kaplan Meier analysis and Cox proportional-hazard models in patients with OCAD. Linearity and proportional hazards assumptions were assessed and fulfilled.

Results

A total of 1285 high and intermediate-risk patients underwent TAVR during the study period, of which 216 (17%) were found to have native severe CAD.







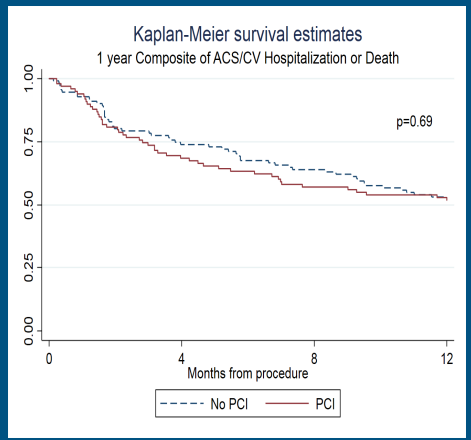


Table 1: Demographics and baseline characteristics

	PCI (n=102)	OMT (n=114)
Female	54%	51%
Age (SD)	84 (7)	84 (7)
White	95%	92%
BMI (SD)	29.6 (6.9)	28.3 (6.2)
LVEF (SD)	57% (11)	59% (19)
Self expandable	91%	94%
Left main d.	**11%**	4.5%
High SS	**7%**	3.5%

PCI was performed in 47% , and 53% were managed with optimal medical therapy (OMT). Decision of PCI vs. OMT was predominantly guided by angiography alone, whereas a physiology-guided approach was utilized in only 5% of the cases.

Multivariate analysis identified BMI and STS risk score as independent predictors of composite outcomes at 1 year, whereas PCI was not a significant predictor at any time.

Conclusion

Our data suggests an angiographic-guided PCI approach to native severe OCAD management in intermediate-/high-risk patients undergoing TAVR wasn't associated with improved short or intermediate terms clinical outcomes compared to OMT.