LEAFLET LENGTH: A NOVEL PREDICTOR FOR CORONARY COMPROMISE AFTER TRANSCATHETER AORTIC VALVE REPLACEMENT?

Poster Contributions
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Background: Coronary compromise is a rare but serious complication of Transcatheter Aortic Valve Replacement (TAVR). There are no established predictors of this phenomenon.

Methods: We sought to evaluate the potential value of a novel parameter derived from contrast Computed Tomography (CT). Coronary leaflet length in relation to corresponding curved coronary distance (L/d, see figure below) was measured and compared it to traditional measures of coronary ostium height (h) ≤10 mm. These parameters were placed in the context of a minority of patients with coronary compromise. All patients studied had severe aortic stenosis and were treated with balloon-expandable TAVR.

Results: Data was available in 138 patients with complete CT data. There were no cases of right coronary compromise. There were 2 cases of left main (LM) compromise in the initial series. Both of these had L/d>1 (1.03 and 1.4 respectively) but with h>10mm (16.7 mm and 15.1 mm respectively). However, L/d for the LM was common. There were 3 cases of h≤10mm for the LM, none of whom had coronary compromise. Since this series, we have encountered 2 further cases of LM compromise, both with L/d>1 (1.06 and 1.24). Data will be updated for a consecutive series of over 300 patients, with an independent assessment of leaflet mobility and estimated leaflet mass by CT.

Conclusions: Leaflet length may be contributory in some cases of LM compromise after TAVR. A further understanding of other potential modifiers of this phenomenon is merited.