INTERVENTIONS FOR VALVULAR DISEASE AND HEART FAILURE

Video densitometric assessment of aortic regurgitation after transcatheter aortic valve implantation: results from the Brazilian TAVI registry

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... aortography, and its long-term clinical impact.

Methods and results: Using dedicated video densitometry software, AR after TAVI was quantified, and inter- and intra-observer reproducibility was investigated in 182 aortograms of the Brazilian TAVI registry. The aortograms were analysed using two software algorithms: 1) the quantitative regurgitation analysis (qRA) index interrogating the entire left ventricle (LV), and 2) a new method with the left ventricle outflow tract (LVOT) as a region of interest (ROI) (LVOT-AR). LVOT-AR was feasible in 64.8% vs. 29.7% of aortograms, compared with qRA index. Using the LVOT-AR, inter-observer variability was low (mean difference±standard deviation [SD]: 0.01±0.05, p=0.53), and the two observers' measurements were highly correlated (r=0.95, p<0.001). Patients with LVOT-AR >0.17 had a significantly higher one-year all-cause mortality risk compared with patients with LVOT-AR ≤0.17 (37.1% vs. 11.2%, p=0.0008).

Conclusions: This study proposes an alternative methodology for AR assessment after TAVI by using the LVOT method (LVOT-AR) of VD angiography. The assessment of LVOT-AR is feasible, reproducible and potentially predictive of one-year mortality.

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KEYWORDS

transcatheter aortic valve implantation
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