IS POST DILATATION USEFUL AFTER IMPLANTATION OF THE EDWARDS VALVE?

Moderated Poster Contributions
Poster Sessions, Expo North
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Aims. The aim of this study was to evaluate the efficacy and safety of post-dilatation (PD) for the treatment of significant paravalvular aortic regurgitation (AR) after transcatheter aortic valve implantation of the Edwards valve (TAVI).

Methods and Results: Between October 2006 and July 2012, a total of 470 patients (age 83.4±6.4 years, Logistic Euroscore 21.9±12.3, calculated average annulus diameter (CAAD) by MSCT 23.2±1.8 mm) undergoing TAVI (51.5% Transfemoral) with the balloon-expandable Edwards valve were evaluated. PD was performed in 49 patients (10.4%) using the balloon delivery system with an additional 1 to 2 cc contrast mix when significant paravalvular AR was identified (initially AR > 2/4 grades and more recently AR >1/4). Patients in the PD group had AR grade 4 in 6% and grade 3 in 82% of cases. They were more frequently male (61.2 vs 43.0%, p=0.015) and had a smaller valve size/CAAD ratio (1.03±0.28 vs 1.10±0.12, p=0.018). After PD, a reduction in at least 1 degree of AR was achieved in 88.2% of cases. There were no patients with grade AR 4 and only 10.2% with AR grade 3. To evaluate the effects of PD, the diameter of the valve was measured from cine acquisition at 3 different levels (proximal: D1, mid: D2 and distal crown: D3). A significant increase in the prosthesis diameter was observed at the 3 levels (AbsoluteΔ3.5% to 5.4%, p<0.01). For the 23 mm valve, D2 increased from 22.9±0.4 mm to 24.0±0.7, p<0.007. For the 26 mm valve from 25.3±0.6 to 26.6±0.7, p<0.001. The occurrence of annulus rupture (4.1 vs 1.2%, p=0.240) and stroke (2.6 vs 2.4%, p=NS) were similar. Kaplan-Meier analysis revealed no significant difference in the mid-term survival between PD and no PD patients (log-rank p=0.593).

Conclusions: AR > grade 2 after Edwards valve implantation is observed in about 10% of cases. The main cause is valve undersizing. Post dilatation seems to be safe and is able to increase the valve size and reduce AR by at least 1 grade in 88% of cases.