Corevalve-Accutrak Delivery System Improves the Deployment and Outcome of TAVI

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Objective: Transcatheter aortic valve implantation (TAVI) is a novel technology for the treatment of patients with severe and symptomatic aortic stenosis that are at high surgical risk. Implantation of the self-expandable Medtronic-Corevalve valve system is associated with a considerable risk of conduction defects that often warrant the implantation of permanent pacemaker. The Accutrak is a new delivery with an additional stability layer that allows accurate positioning of the corevalve system. We studied whether Accutrak use is associated with favorable deployment and lower risk of pacemaker implantation.
Methods and Results: We compared two consecutive cohorts of patients, each consisting of 24 patients that underwent TAVI with the Medtronic-Corevalve system, prior to and following the introduction of the Accutrak system. There were no significant differences in baseline characteristics including age, gender, co-morbidites, logistic euroscore or aortic stenosis severity. Implantation in both groups was performed via the transfemoral approach in 79% and via subclavian or direct aortic approach in 21%. The mean depth of implantation was 6.7±3 mm below annulus, with 50% of the cases implanted below 6 mm in the pre-Accutrak cohort and 4.7±2.6 mm below annulus ($p<0.05$) with 25% implanted below 6 mm in the Accutrak cohort. No differences were observed in the need for post-dilatation, post procedural aortic regurgitation nor the days to discharge (6.3±2 in both groups). In each cohort there was single mortality in 30 days.Permanent pacemaker was implanted in 42% of the pre-Accutrak cohort and 25% of those implanted with Accutrak (p=).
Conclusion: TAVI with Medtronic-Corevalve system is an effective and safe therapy of high-risk aortic stenosis patients. The new Accutrak delivery system allows accurate deployment, less conduction defects and a lower need for post procedural pacing.