CRT-811

The Impact of Obstructive versus Restrictive Lung Disease on Mortality in Patients Undergoing Transcatheter Aortic Valve Replacement

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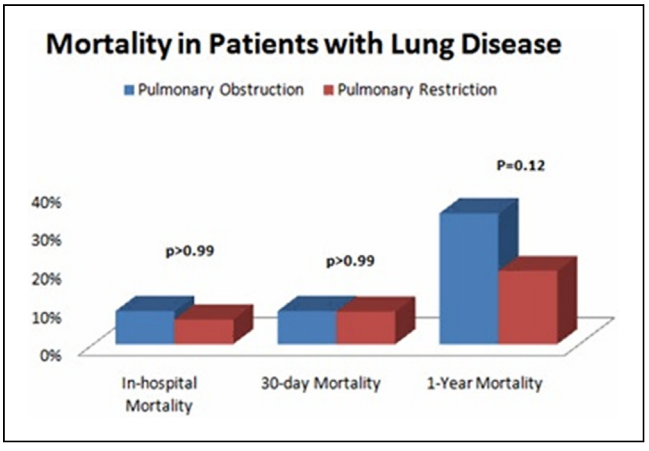
BACKGROUND Pulmonary function tests (PFTs) to estimate force vital capacity (FVC) and forced expiratory volume in 1 sec (FEV1) has increasingly being used in patients evaluated for transcatheter aortic valve replacement (TAVR). The impact of obstructive versus restrictive lung disease on mortality remains unclear.

Hypothesis: We sought to identify differences in survival in patients with 2 distinct pulmonary function patterns (obstruction vs restriction).

METHODS We retrospectively analyzed all patients with abnormal FEV1 (lower than 80% of predicted) detected on the PFTs prior to TAVR from May 2011 to March 2014. Patients were divided into patients with obstructive pattern (FEV1/FCV<70% of predicted) and patients with restrictive pattern (FEV1/FVC>70% of predicted). Cox-proportional hazards regression was used to explore the impact of FEV1 on mortality.

RESULTS A total of 82 patients were included in this analysis. 42% (n=35) had obstructive pattern and 58% (n=47) had restrictive pattern. FEV1 values were similar between both groups (45 ± 19 vs 42 ± 26, p=0.72). Both groups had similar rates of in-hospital death, 30-day and 1-year mortality (figure). FEV1 was not a correlate for 1 year mortality (HR 0.99, 95%CI 0.97-1.01, p=0.41).

CONCLUSION In our population, patients with pulmonary obstructive and restrictive patters had similar rates of mortality. Moreover, FEV1 value was not a correlate for 1 year mortality. In patients undergoing TAVR, the pattern on PFTs or FEV1 values is not helpful for the assessment of eligibility patients who are candidates for TAVR.



CRT-812

Abstract Withdrawn

CRT-813

Treatment of Bio-Prosthetic Valve Deterioration Using The Valve-in-Valve Technique

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BACKGROUND Trans-catheter heart valve implantation is a therapeutic option for the treatment of patients with bioprosthetic valve failure. We describe our experience using this technique in the treatment of degenerated mitral, aortic and tricuspid bioprosthetic-valves.

METHODS 33 patients underwent a valve-in-valve procedure, with the implantation of 34 percutaneous implantable valves. Both, the Edwards-Sapien and the CoreValve devices were used. Outcomes were evaluated using the Valve Academic Research Consortium 2 criteria.

RESULTS Valve-in-Valve in the aortic position: mean age of patients was 81.4 ± 5.9 years. NYHA III/IV before the procedure was present in 95.6% of patients. Mean STS score was 9.0 ± 5.4. Mean aortic valve gradients was 42.2 ± 6.1 mmHg. The CoreValve and the Edwards-Sapien valve devices were used in 91.3% and 8.7% of patients, respectively. The CoreValve device was implanted via the trans-axillar route in 3 cases and via trans-femoral route in 18 cases. The trans-apical route was used in both Edwards-Sapien implantations. Procedural success was achieved in 100% of cases. One month and one year survival rates were 100% and 90%; respectively. At one month follow up, 95.7% of patients were in NYHA I/II.

Valve-in-Valve in the mitral position: mean age of patients was 73.6 ± 15 years. NYHA III/IV before the procedure was present in 100% of patients. Mean STS score was 7.7 ± 4.1. Mode of failure was severe mitral regurgitation in 100% of cases. All the procedures were performed with the Edwards-Sapien device via the trans-apical route. Procedural success was achieved in 100% of cases. One month and one year survival rates were 90% and 80%; respectively. At one month follow up, 100% of patients were in NYHA I/II.

Valve-in-Valve in the tricuspid position, was performed in a 78 year-old female patient. The patient was in NYHA IV secondary to severe tricuspid stenosis due to the deterioration of a bioprosthetic Handcock 31mm valve. An Edwards-Sapien 29mm valve was implanted via the trans-femoral vein route. The procedure went uneventful. At one month follow up the patient was in NYHA-FC II.

CONCLUSION In our experience, the Valve-in-Valve procedure for the treatment of failed mitral, aortic and tricuspid bio-prosthetic valves, using multiple access techniques and available devices, led to significant symptomatic improvement, low peri-procedural morbidity and low mortality rates.

CRT-814

Presence Of Diabetes Is Associated With Aortic Valve Disorder

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BACKGROUND Diabetes is a risk factor for cardiovascular disease. The goal of this study was to evaluate any association between aortic valve disease and diabetes using a very large database.

METHOD The Nationwide Inpatient Sample (NIS) database was utilized to perform statistical analysis to evaluate prevalence of aortic valve disease (ICD-9 code: 424.1 in diabetes vs non diabetes patient using two samples yeas 10 years apart in 1997 and 2007 in the United States.

RESULTS A total of 1,410,132 patients with a diagnosis of diabetes were identified from year 2007 from a population of 8,043,415 inpatients admissions. The prevalence of aortic valve disease was 1.9 % in DM patients vs 1.1 in pt without DM, p<0.0001. Obesity increased over the years. In year 1997, a total of 912,466 patients were identified with DM from a total population of 7,148,420 inpatients admission. Prevalence of aortic valve disease was 1.7% in DM patients vs, 1% in patients without DM, p<0.0001.

CONCLUSION Using a very large data base, we find significantly higher prevalence of aortic valve disease in DM patients. This suggests that DM has a negative effect on the aortic valve apparatus.

CRT-815

A Meta-analysis Of Clinical Outcomes Between Edwards Valve Versus Corevalve After Transcatheter Aortic Valve Replacement

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BACKGROUND Transcatheter aortic valve replacement (TAVR) has been approved by US FDA for high surgical risk and inoperable patients with severe aortic stenosis. However, there is no single large study comparing the performance of valves with respect to mortality or stroke.

OBJECTIVE To compare the 30-day mortality and stroke outcomes in TAVR patients treated with balloon expandable valve (BEV, Edwards Lifesciences Corporation, Irvine, Ca) and self-expanding valve (SEV, Medtronic CV, Luxembourg S.a.r.l.).

METHODS We performed an electronic search for studies published between 2009 and 2014 reporting clinical outcomes for BEV and SEV. Pooled odd's ratio with 95% confidence intervals was calculated using Mantel Haenszel random effects model.

RESULTS A total of 165 studies were initially selected of which 10 studies were included in the final analysis, yielding a total of 5204 patients (2779 with Edwards Valve and 2425 with CoreValve). Pooled estimate of 30-day mortality was 9.4% (493/5204) and of stroke was 1.3% (71/5204). There was no difference in the 30-day mortality between the valves (OR 1.03, 95% CI 0.76 to 1.39). There was no statistically significant difference in stroke risk (OR 1.75, 95% CI 0.96 to 3.21). Figure 1

CONCLUSION Post-operative mortality and stroke risk appear to be similar with both valves. Large randomized controlled trials assessing clinical outcomes are warranted as these analyses may be confounded by heterogeneity in study population, baseline risk characteristics and TAVR approaches.