Conclusions: Aggressive repair of accompanying TR should be undertaken at the time of initial mitral surgery. Tricuspid valve repair, described by De Vega, is a simple, short, and inexpensive procedure with few complications.

Patient selection and learning curve influence the results of transapical aortic valve implantation

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Objectives: What influence do patient selection and learning curve have on the results of transapical aortic valve implantation (TAVI)?

Methods: From September 2007 to January 2009, 33 patients treated with TAVI for severe symptomatic aortic stenosis were included in a prospective registry. According to their risk profile, 2 patient groups were distinguished. In Group 1 (n=25) the high surgical risk was related to technical difficulties for conventional aortic valve replacement (porcelain aorta, redo surgery with patent coronary artery bypass grafts, hi-dose mediastinal radiotherapy). In Group 2 (n=8) the high risk was due to severe comorbidities.

Results: TAVI was successfully performed in all patients without per-procedural death or stroke. “Valve in valve” reimplantation was necessary in 2 patients due to persistent leaks. Mean follow-up was 10.8 months (1-17). Overall mortality was 16% in Group 1 and 37.5% in Group 2 (p=0.03). Predictive factors of hospital mortality were: NYHA class (p=0.03), LV dysfunction (p=0.009) and pulmonary hypertension (p=0.001). No reintervention, prothestic valve deterioration or haemolysis was recorded. In-hospital mortality decreased from 15.2% in the first 17 patients to 6.1% in the last 16 patients implanted.

Conclusions: TAVI gives superior results in patients with technical difficulties for conventional surgery than in patients with severe comorbidities. These results could be improved by accumulating experience and better patient selection.

Accuracy of surgical scores for prediction of operative mortality in patients undergoing transapical aortic valve implantation?

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Objective: Risk assessment for patients undergoing transapical aortic valve implantation (TAVI) is currently performed with the EuroSCORE and STS-PROM risk algorithms. None of these scores were designed for a TAVI population. To demonstrate their accuracy, both scores were compared to the real outcome in patients undergoing TAVI.

Methods: 33 patients underwent TAVI using the Edwards Sapien bioprosthesis between September 2007, and April 2009 due to contraindications of conventional surgery and/or high operative risk. Mean age was 81 ± 9.8 Years, and 40% were female. Mean STS and EuroSCORE were 21% and 28.6%, respectively.

Multiple variables were used in the calculation of the EuroScore and the STS-PROM algorithms including chronic lung disease (24%), renal Failure (36.4%), cancer (27.3%), neurological dysfunction (12%), peripheral arteriopathy (69.7%), previous cardiac surgery (42.4%), Diabetes (30%), severe pulmonary hypertension ≥ 60 mmHg (18.2%), moderate LV dysfunction EF≤50% (54.6%), and LVEF ≤ 30% (21.2%). Certain variables do not figure in the algorithm as porcelain aorta (39.4 %) and mediastinal irradiation (6%). Observed in-hospital death was 18.2%. The actual and predicted mortality were compared.

Results: Operative mortality (30 days) = 5 patients (15.6 %). An additional 4 patients (12.1 %) died during the follow-up study period of 587 days (mean 324 ± 164). Overall mortality = 9 patients (27.3 %). Both the STS and EuroSCORE failed to demonstrate significant correlation with predicted operative mortality (p=0.145 and 0.875, respectively). The STS algorithm seems more accurate in estimating the operative mortality in TAVI patients.

Conclusion: Current surgical scores correlate poorly with the observed outcome. Refining these scores for high risk patients requiring aortic valve surgery may improve patient selection for TAVI.