
Authors:
L Guema¹, JC Roos¹, R Capoulade², G Guimbretiere¹, C Cueff¹, P Jaafar¹, V Padler-Karavani³, R Manez Mendiluce⁴, V Letocart¹, JP Soulilou¹, E Cozzi⁵, T Senage¹, JM Serfaty¹, JC Roussel¹, T Le Tourneau¹, ¹University Hospital of Nantes Nord Laennec · Nantes · France, ²Research unit of lInstitut du thorax · Nantes · France, ³Tel Aviv University · Tel Aviv · Israel, ⁴University Hospital of Bellvitge · Barcelona · Spain, ⁵University of Padova · Padua · Italy,

Topic(s):
Echocardiography: Valve Disease

Citation:
European Heart Journal - Cardiovascular Imaging ( 2019 ) 20 ( Supplement 1 ), i1238

Background: Structural valve degeneration (SVD) remains the main complication of aortic bioprosthesis. The study aimed to evaluate SVD mode, outcome and effect of treatment.

Methods: Patients with presumed aortic SVD by echocardiography in our institution between January 2010 and December 2016 were included. All-cause mortality, cardiovascular morbidity, and effect of treatment were assessed.

Results: After exclusion of 4 patients with others causes of increased gradients, 220 patients were analyzed (78±9 years, 52% men). Regurgitant SVD (n=94, 43%) occurred later than stenotic (n=126, 57%) SVD (9.2±3.7 vs 7.9±3.0 years; P=0.003). Patients with a regurgitant SVD were more symptomatic, had a larger bioprosthesis, and were more often referred to invasive management. Exclusive medical care (Med) was retained in 67 patients, redo-surgery in 89 and VinV in 64. Macroscopic examination of explanted bioprostheses (n=71) demonstrated severe calcifications in 56.3%, mainly in stenotic SVD (71 vs 42%, P=0.02), and leaflet tear in 28%. Overall survival at 35 months was significantly associated with the type of management (VinV: 85.3 ± 4.9%, redo-surgery 86.7 ± 3.8%, Med 60.1 ± 7.7%, P <0.0001). In multivariable analysis, predictive factors of overall survival were bioprosthesis type, Nt proBNP level (HR=1.52 [95% CI: 1.17-1.97], P=0.002), transvalvular maximal velocity, and invasive management (Redo-surgery: HR=0.35 [95% CI: 0.15-0.81], P=0.014; VinV: HR=0.32 [95% CI: 0.13-0.77], P=0.011) as compared to Med.

Conclusion: Structural valve degeneration remains a matter of concern. Regurgitant SVD occurs later than stenotic SVD which is characterized by a more severe calcification process. Redo-surgery and VinV are associated with a better outcome, independently of failure mode, and should be considered in most SVD patients. Although VinV was proposed to older and higher-risk patients, its effect on overall survival was comparable to redo-surgery in multivariable analysis.