

Poster n°5

Outcome of normal flow low gradient "severe" aortic stenosis with preserved left ventricular ejection fraction: A propensity matched study

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Introduction Normal-flow low-gradient severe aortic stenosis (NF-LG-SAS), defined by aortic valve area $< 1 \text{ cm}^2$, mean gradient $< 40 \text{ mmHg}$ and indexed stroke volume $> 35 \text{ ml/m}^2$, is the most prevalent form of low-gradient aortic stenosis (AS). However, the true severity of AS and the management of NF-LG-SAS is controversial. The aim of this study was to evaluate the outcome of patients with NF-LG-SAS compared to patients with moderate AS (MAS), who are considered to be suitable for conservative management.

Method A total of 520 patients were included in this study: 154 with NF-LG-SAS and 366 with MAS (aortic valve area between 1.0 and 1.3 cm^2). The study endpoint was overall survival in medically and surgically managed patients after diagnosis in echocardiography. Propensity score matching was performed in 226 patients (113 patients in each group).

Results On Cox multivariate analysis, after adjustment for covariates of prognostic importance, NF-LG-SAS patients did not exhibit an excess risk of mortality compared to MAS patients, under medical management ($P=0.45$) and under medical and surgical management ($P=0.70$), even after further adjustment for aortic valve replacement (AVR) ($P=0.56$). The 6-year cumulative incidence of AVR (performed in accordance with current guidelines) was comparable between the two groups ($39 \pm 4\%$ for NF-LG-SAS and $35 \pm 3\%$ for MAS, $P=0.10$). After propensity score matching ($n=226$), NF-LG-SAS patients and MAS patients also had comparable outcomes under medical ($P=0.41$), and under medical and surgical management ($P=0.52$).

Conclusion This study shows that NF-LG-SAS have a comparable outcome to that of MAS when AVR was performed during follow-up according to guidelines, mostly at the stage of high-gradient AS. Rigorous echocardiographic assessment to rule out measurement errors and close follow-up are essential in NF-LG-SAS to detect progression to true severe AS. Overall survival in propensity matched population (Fig. 1).

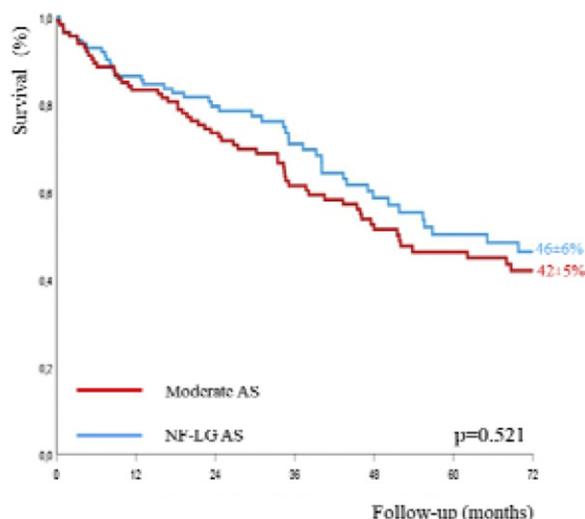


Fig. 1

Disclosure of interest The authors declare that they have no competing interest.

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Poster n°9

A reappraisal of bioprosthetic structural valve degeneration after surgical aortic valve replacement: mode, determinants, effect of treatment and outcome

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Introduction Structural valve degeneration (SVD) of surgical bioprostheses (BP) is increasingly diagnosed. We aimed to reappraise aortic BP SVD mode, determinants, effect of treatment and outcome.

Method A total of 262 SVD patients (78 ± 9 years, 53.4% males) were enrolled. The mode and determinants of SVD were investigated by echocardiography, surgical and macroscopic evaluation. Mortality and the effect of treatment were assessed.

Results The predominant mode of SVD was stenosis (58%). The annualized rate of increase in mean gradient was $4.6 \pm 3.2 \text{ mmHg/year}$ in stenotic SVD. In multivariable analysis, predictive factors of an earlier SVD were age ($P < 0.001$), creatinine clearance ($P < 0.0001$), early post-operative effective orifice area ($P=0.011$) and mean gradient ($P < 0.0001$), BP type (Stentless/Stented porcine/Stented pericardial, $P=0.009$) and a specific type of BP ($P < 0.0001$). Seventy (26.7%) patients underwent exclusive medical care (Medical), 79 VinV (30.1%) and 113 (43.1%) Redo-Surgery. In explanted BP ($n=113$) moderate to severe calcifications was found in 83.2%. Leaflet fibrosis, as a component of SVD, was found in 23.9% of BP. Out of 19 (16.8%) BP with no or minimal calcification (NoCalcif) 7 had fibrotic stenosis (36.8%). At 4 years, overall survival was improved by invasive management ($74.0 \pm 6.6\%$ vs. $55.7 \pm 6.9\%$, $P=0.01$). In multivariable analysis predictors of overall survival were Redo-S (HR 0.47, $P=0.028$), VinV (HR 0.37, $P=0.014$), and Nt-pro-BNP > 3000 (HR 2.22, $P=0.004$).

