**SUPPLEMENTAL MATERIAL**

**Supplemental Methods**

*Demographic and past medical history definitions*

History of hypertension was defined as self-reported high blood pressure in combination with one of the following a) use of anti-hypertensive medications; b) systolic blood pressure ≥ 140 mm Hg; or c) diastolic blood pressure ≥ 90 mm Hg. History of diabetes was defined as use of oral hypoglycemic medication or self-reported diabetes in combination with fasting glucose higher than 126 mg/dL. Coronary artery disease (CAD) was defined by clinical history of myocardial infarction, angina, coronary-artery bypass grafting or angioplasty. Chronic kidney disease was defined by a serum estimated GFR < 60 ml/min/1.73 m2. Hyperlipidemia was defined as at least one of the following: total serum cholesterol level >200 mg/dL, triglycerides >150 mg/dL, LDL-C >100 mg/dL, HDL-C < 50 mg/dL.

*Equations used for the determination of AS severity and vascular load*

Aortic valve area (AVA) was derived from the continuity equation. Dimensionless index (DOI) was calculated as LVOT**TVI**/AV TVI. The left ventricular volumes and left ventricular ejection fraction (LVEF) were measured by biplane Simpson’s rule method. Left ventricular stroke volume was calculated by the Doppler method. To take into account the pressure recovery phenomenon, the energy loss index was calculated [1]: Energy loss index = [(EOAxAa)/ (Aa-EOA)]/ BSA, where EOA = effective orifice area by continuity equation, Aa is the aortic cross sectional area measured at the sino-tubular junction, BSA = body surface area. Left ventricular mass was calculated as described by Devereux and Reichek[2]. Systemic vascular resistance (SVR) was estimated by the equation: (80xMAP)/CO, where MAP is mean arterial pressure and CO is the cardiac output. Systemic arterial compliance was estimated by SV/PP ratio, where SV is LV stroke volume and PP is brachial pulse pressure. Global afterload (Zva-valvulo-arterial impedance-) was calculated according to the equation: Zva= SBP+MG/SVi[3]. Mitral annular velocities determined by tissue Doppler were recorded at the lateral and septal corners of the mitral annulus in order to calculate the E/e’ratio. E/e’avg >14 was considered as suggestive of elevated mean left atrial pressure[4].

References

1 Garcia D, Pibarot P, Dumesnil JG, Sakr F, Durand LG: Assessment of aortic valve stenosis severity: A new index based on the energy loss concept. Circulation 2000;101:765-771.

2 Devereux RB, Alonso DR, Lutas EM, Gottlieb GJ, Campo E, Sachs I, et al.: Echocardiographic assessment of left ventricular hypertrophy: comparison to necropsy findings. The American journal of cardiology 1986;57:450-458.

3 Briand M, Dumesnil JG, Kadem L, Tongue AG, Rieu R, Garcia D, et al.: Reduced systemic arterial compliance impacts significantly on left ventricular afterload and function in aortic stenosis: implications for diagnosis and treatment. Journal of the American College of Cardiology 2005;46:291-298.

4 Nagueh SF, Smiseth OA, Appleton CP, Byrd BF, 3rd, Dokainish H, Edvardsen T, et al.: Recommendations for the Evaluation of Left Ventricular Diastolic Function by Echocardiography: An Update from the American Society of Echocardiography and the European Association of Cardiovascular Imaging. J Am Soc Echocardiogr 2016;29:277-314.

**Supplemental Figure I**

**Figure Legend:**

Kaplan-Meier survival estimates of all-cause mortality. After 6 years, 244 patients died. Gender was not associated with all-cause mortality as demonstrated by the log-rank test (p=0.95).