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PREVALENCE AND DETERMINANTS OF RIGHT VENTRICULAR DYSFUNCTION IN SEVERE AORTIC STENOSIS

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Introduction: systolic pulmonary artery pressure (sPAP) is a well known predictor of outcome in patients with valvular heart disease. In spite of this fact, limited data are available regarding the assessment of RV function in patients with aortic stenosis (AS).

Aim of this study is therefore to evaluate the prevalence and the determinants of RV dysfunction in severe AS patients.

Methods: 201 patients (mean age:79.7±8.7 years, males: 55.5%) with severe AS underwent 2D and speckle-tracking echocardiography (STE) for the evaluation of left ventricular (LV) and RV function, aortic valve gradients and sPAP. A tricuspid annular plane systolic excursion (TAPSE) ≤17 mm was defined RV dysfunction

Results: RV dysfunction was observed in 48 patients (24%). Patients with reduced TAPSE had an impaired LV ejection fraction (LVEF) (49.2±15.4 vs 57.9±10.9%, p<0.0001), significantly altered STE parameters (GLS: -10.3±3.9 vs -13.2±3.5%, GCS: -7.0±3. vs -10.4±4.9%, GRS: 18.7±11.6 vs 28.4±15.6%, all p<0.001) and higher sPAP (48.4±15.8 vs 40.9±12.7 mmHg, p=0.002). Main correlates of TAPSE at univariate linear regression analysis are shown in Table 1. At Kaplan-Meier survival curve, a TAPSE ≤17 mm was associated with a reduced survival in patients with AS (LogRank test, p=0.03).

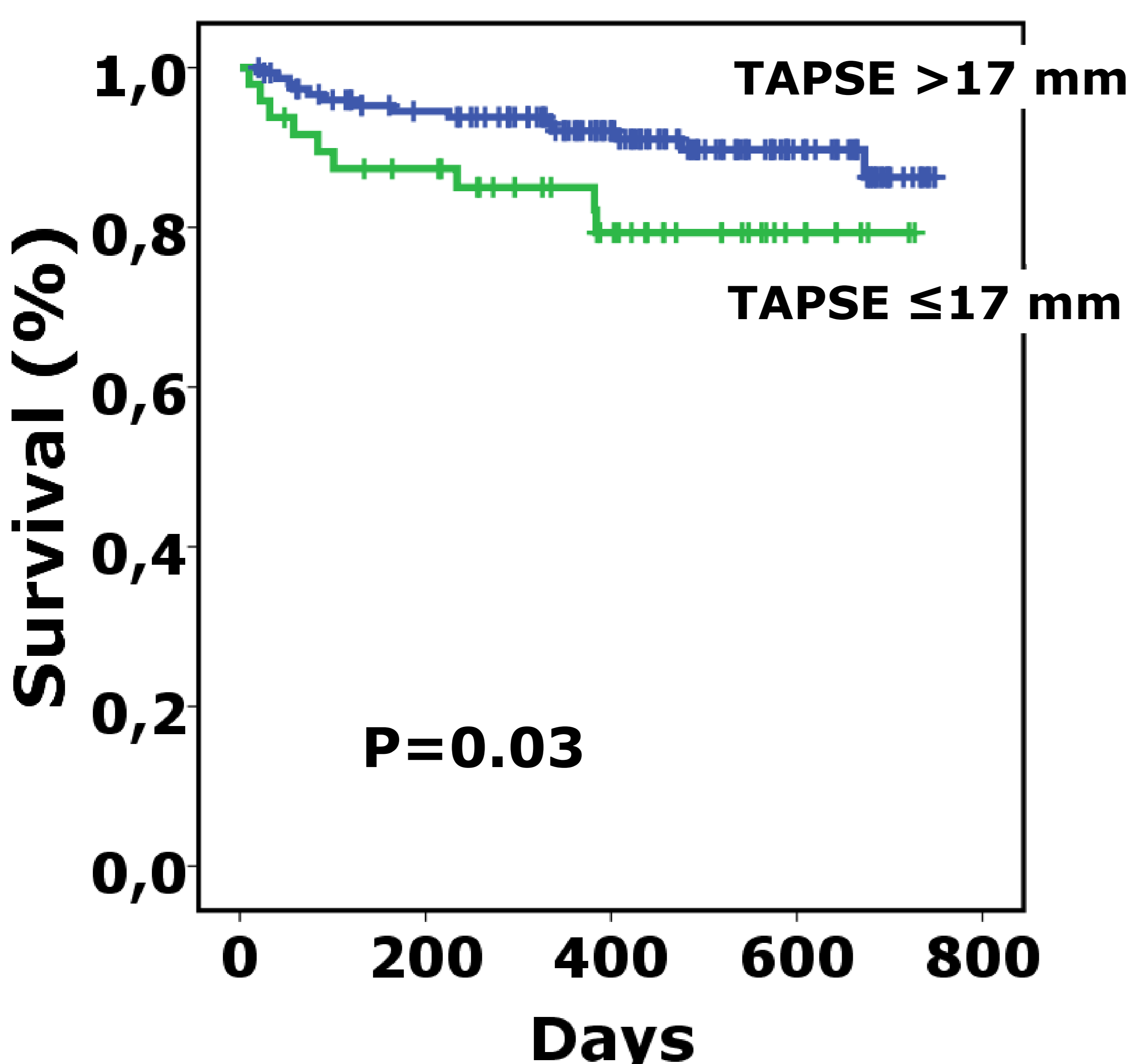


Table 1	β	p
LVEF (%)	0.35	<0.0001
GLS (%)	-0.40	<0.0001
GCS (%)	-0.40	<0.0001
GRS (%)	0.37	<0.0001
SV _i (ml/min/m ²)	0.44	<0.0001
lnNTproBNP (pg/ml)	-0.51	<0.0001
sPAP (mmHg)	-0.27	<0.0001

Conclusions: In patients with severe AS, RV dysfunction is frequent and is associated with a poor prognosis. The correlates of TAPSE highlight the RV-LV interdependence in AS. Further studies will clarify the real and independent prognostic value of RV function in severe AS and test for the RV reverse remodelling after AS treatment.