

EuroValve

October 24-25 2014, Rome, Italy

www.eurovalvecongress.com



LEFT ATRIAL SYSTOLIC FUNCTION IMPAIRMENT AND PROGNOSIS IN SEVERE AORTIC STENOSIS

Galli E^{1,2,3}, Guirette Y¹, Auffret V¹, Mabo P^{1,2,3}, Donal E^{1,2,3}

¹ Service de Cardiologie et Maladies Vasculaires, CHU-Pontchaillou, Rennes – France

² INSERM, UMR 1099, Rennes, France

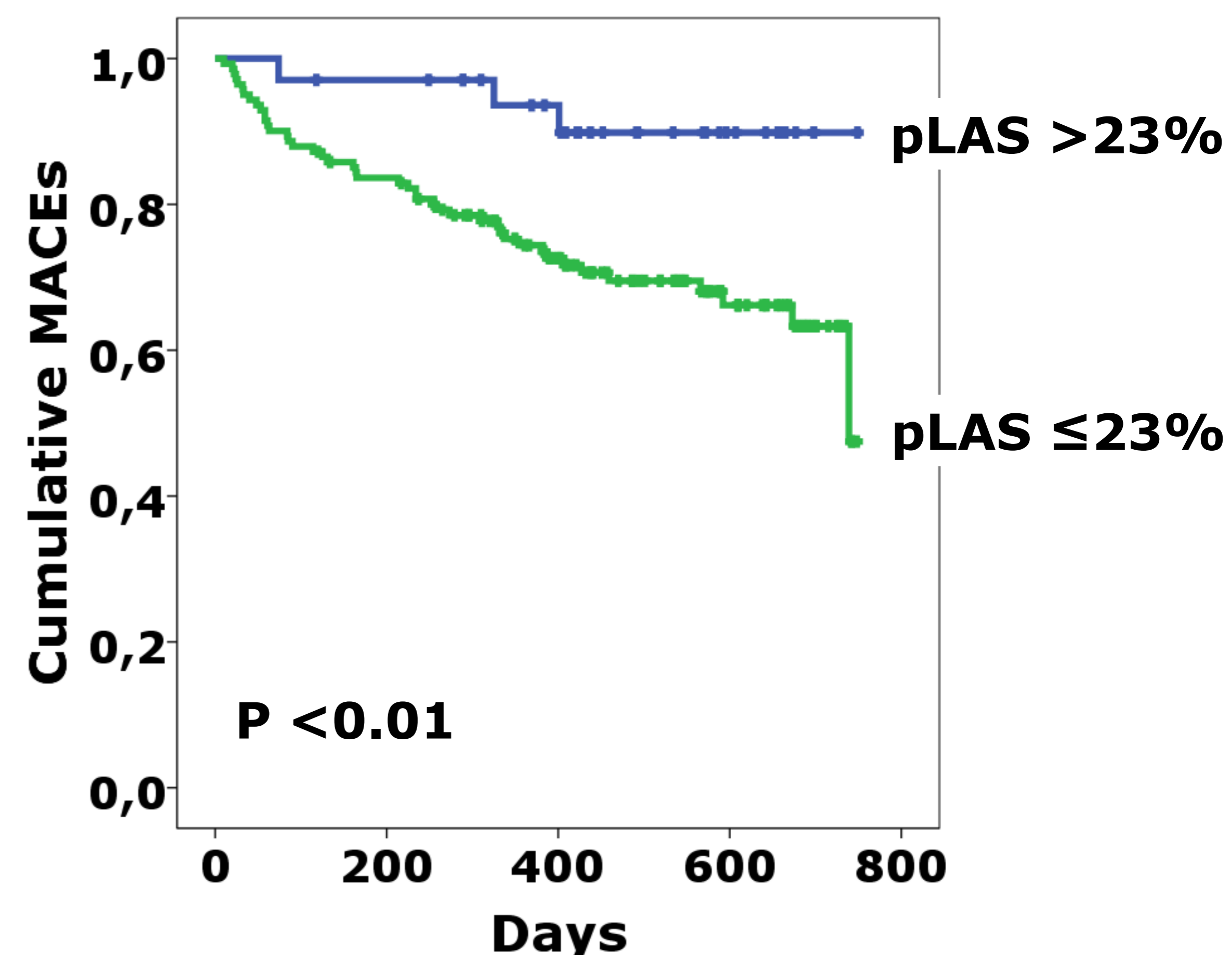
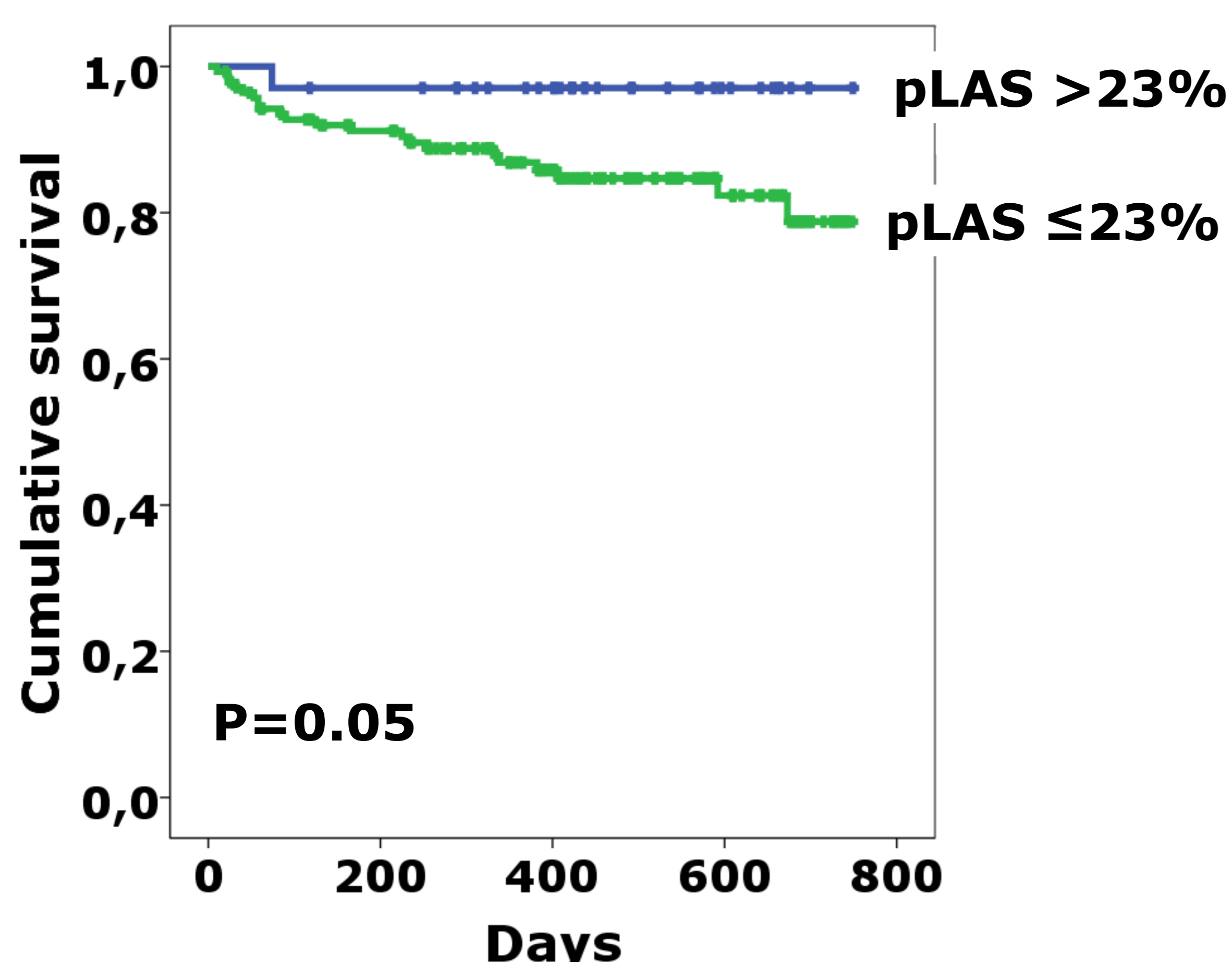
³ LTSI, Université de Rennes 1, Rennes, France

Introduction: Left atrial (LA) size has recently emerged as a prognostic factor in patients with valvular heart disease.

Aim of the study is to determine the utility of LA systolic function in patients with aortic stenosis (AS)

Methods: we studied 178 patients (mean age 79.6 ± 0.6 years) with severe AS who underwent 2D echocardiography for the assessment of left ventricular (LV) and right ventricular (RV) functions, LA size, aortic valve morphology and gradients. Peak LA strain (pLAS) measured by 2D speckle tracking echocardiography (STE) was used to evaluate LA function. According to values in normal population, a pLAS $\leq 23\%$ was considered as an index of severely impaired LA function.

Results: A pLAS $\leq 23\%$ was very common in patients with AS (n=139, 79%). Patients with reduced pLAS had greater LA volume (52.9 ± 15.7 vs 36.6 ± 7.8 ml/m², $p < 0.0001$), reduced LV ejection fraction (54.2 ± 12.8 vs 61.5 ± 7.7 %, $p = 0.001$) and TAPSE (19.9 ± 4.3 vs 22.3 ± 4.0 mm, $p = 0.003$), more severe aortic stenosis (aortic surface: 0.40 ± 0.09 vs 0.48 ± 0.13 cm²/m², $p < 0.0001$) and higher InNT-proBNP (7.6 ± 1.3 vs 6.1 ± 1.4 pg/mL, $p < 0.0001$) levels. The main factors associated with pLAS were: left ventricular global longitudinal strain, InNT-proBNP, indexed LA volume, and TAPSE ($\beta = -0.58, -0.56, -0.51$ and 0.43 respectively; all $p < 0.0001$). At Kaplan-Meyer analysis, a reduced pLAS was associated with increased all cause mortality and major adverse cardiovascular events (MACEs) (Log Rank test $p = 0.05$ and $P < 0.01$ respectively) (see Figures).



Conclusions: in patients with AS, LA systolic dysfunction is very common and is associated with LA dilatation and biventricular impairment. A reduced survival and a significantly higher recurrence of MACEs were also observed in these patients. Further studies, exploring LA atrial relaxation and overall dynamics are necessary to support the utility of quantitative echocardiographic assessment of LA function as an additional tool to guide management of AS.