Rapid Fire Abstracts

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Risk stratification of patients with asymptomatic moderate mitral regurgitation: the prognostic value of left atrial strain

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Background. In asymptomatic moderate mitral regurgitation (MR), the criteria for risk stratification are still uncertain. Therefore, in these patients, optimal time of surgery remains controversial.

Purpose. Our aim was to compare left atrial (LA) strain to other echocardiographic parameters for the prediction of cardiovascular (CV) events in patients with asymptomatic moderate MR.

Methods. 401 patients with primary degenerative asymptomatic moderate MR was enrolled and prospectively followed for the development of CV events (i.e. atrial fibrillation, stroke/transient ischemic attack, acute heart failure, CV death). Patients with history of atrial fibrillation, myocardial infarction, heart failure, cardiac surgery or heart transplantation, severe MR, mitral valve surgery during follow-up were excluded.

Results. During a mean follow up of 3.4 ± 2 years, of the 326 patients eligible (mean age 65 ± 9 years), 122 patients had 149 new events. There were no significative differences in mean age and sex, clinical and therapeutic characteristics between the two groups. The event-group presented reduced global peak atrial longitudinal strain (PALS), LA emptying fraction, LV strain at baseline, and larger LA volume indexed ($p < 0.0001$). Receiver operating characteristics curves proved the greatest predictive performance for global PALS < 35% (AUC 0.88). Bland-Altman analysis demonstrated good intra- and inter-observer agreement and Kaplan Meier analysis showed a graded association between PALS and event-free-survival.

Conclusions. Speckle tracking echocardiography could provide a useful index, global PALS, to estimate LA function in patients with asymptomatic moderate MR in order to optimize surgical timing before the development of irreversible myocardial dysfunction.

Echo-data of our study population

Variable	No CV events (n = 204)	CV events (n = 122)
LV ejection fraction (%)	59 ± 9	58 ± 10
LV global longitudinal strain (%)	- 18.5 ± 3.4	-17.6 ± 3.6*
LA volume indexed (ml/m^2)	32.5 ± 6.7	36.4 ± 7.1*
LA emptying fraction (%)	68 ± 13	62 ± 15*
Mitral E/A ratio	0.94 ± 0.14	0.95 ± 0.16
Mitral E/E' ratio	11.2 ± 6.5	12.4 ± 7.1
Mitral regurgitant fraction (%)	38.9 ± 8.1	39.1 ± 9.4
End regurgitation orifice area (cm^2)	0.34 ± 0.05	0.34 ± 0.06
Global PALS (%)	32.5 ± 8.5	19.7 ± 8.1*

*Significative variation between groups. Cardiovascular, CV; Left atrial, LA; Left ventricular, LV; Peak atrial longitudinal strain, PALS

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