



Editor's choice to the March 2023 issue

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Prognostic value of echocardiographic evaluation of cardiac mechanics in patients with aortic stenosis and preserved left ventricular ejection fraction

Dear Reader,

For this March 2023 issue, I have selected the paper by G Faganello et al. from the Cardiovascular Department, Azienda Sanitaria Universitaria Giuliano Isontina in Trieste, Italy. My argument for this selection is the interesting data on this novel non-invasive measurement of intra-ventricular pressure gradient (IVPG), also denoted Hemodynamic Forces (HDF), that has a great potential for the early detection of cardiac dysfunctions. The IVPG is also based on echo feature tracking, but is the latest development in deformation analyses.

In this single center study, a total of 253 patients (median age 79 years, IQR 73–83 years) with mild (n = 87), moderate

(n = 77) and severe aortic stenosis (AS) (n = 89) were retrospectively enrolled. 2D echocardiographic global longitudinal strain (GLS), circumferential strain (GCS), as well as HDFs were determined. The authors found that speckle tracking derivatives and the HDFs parameters declined as the AS became more severe. Also, reduced values of the LV systolic longitudinal force (LVsysLF) value (< 12,49), were associated with Aortic Valve Replacement and reduced survival in AS patients. They conclude, that LVsysLF could provide useful information in the stratification of patients with AS and possibly in the choice of timing for AVR.

Figure 1 shows the event-free survival curves for patients with moderate and severe aortic stenosis. There is a clear difference in the patients with moderate aortic stenosis over a period of 4 years when measured with the LVsysLF.

I thank you for your interest and would like to wish you much reading pleasure with this paper and all the other very interesting papers published in this March 2023 issue of the International Journal of Cardiovascular Imaging.

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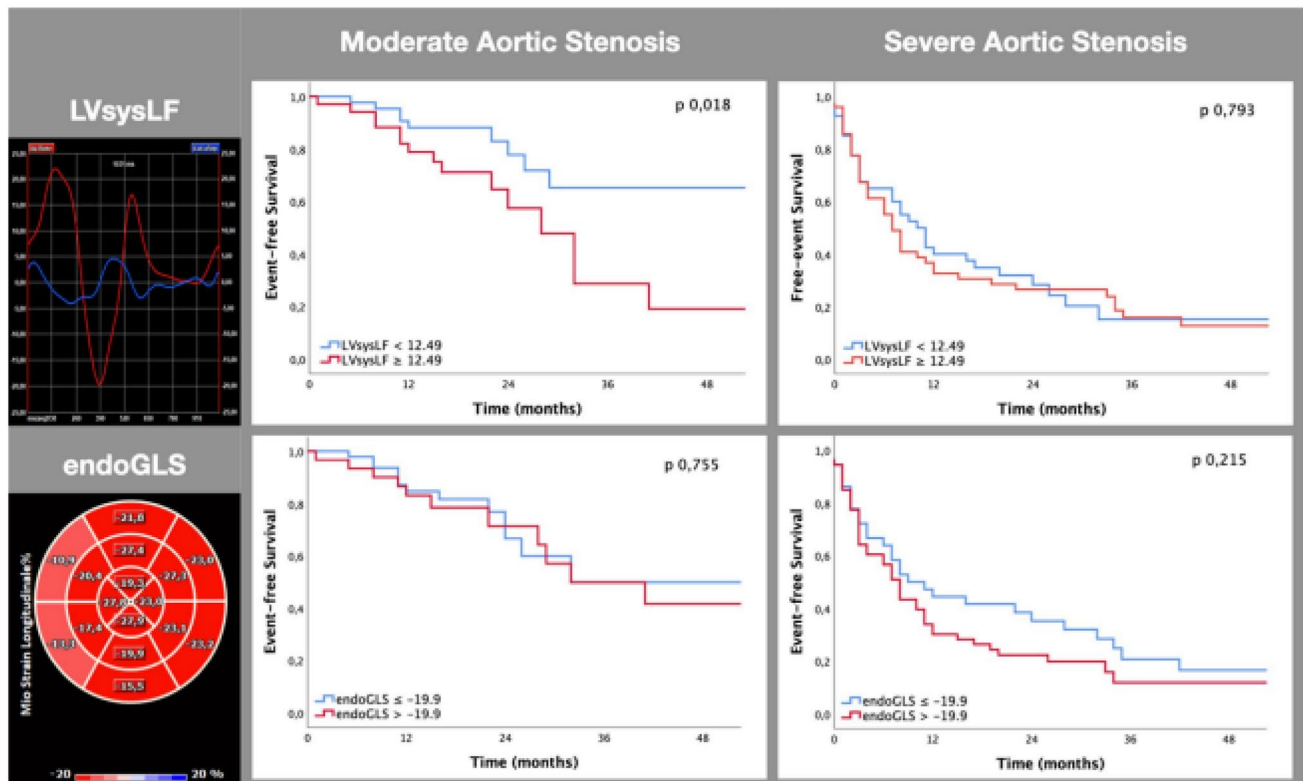


Fig. 1 Separate event-free survival curves for moderate and severe aortic stenosis according to Left Ventricular Systolic Longitudinal Force (12.49-upper panels) and endocardial Global Longitudinal

Strain (-19.9% -lower panels) median values. Event=surgical/transcatheter AVR or death for all-cause. The images of the bull's eye and LV hemodynamic forces refer to the case of a patient with severe AS

Reference

1. Faganello G, Pagura L, Colli D et al (2022) Prognostic value of echocardiographic evaluation of cardiac mechanics in patients with aortic stenosis and preserved left ventricular ejection fraction. *Int J Cardiovasc Imaging*. <https://doi.org/10.1007/s10554-022-02756-z>

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