

## **The integrated approach to evaluation of left ventricular systolic function in asymptomatic patients with severe aortic stenosis.**

Zharykhina M. <sup>1</sup>, Vertynsky E. Ph.D. <sup>1</sup>, Chkrebneva E. <sup>2</sup>, KotZh. <sup>2</sup>, Chyzh S. <sup>1</sup>

<sup>1</sup>Belarusian Medical Academy of Postgraduate Education, Minsk, Belarus;

<sup>2</sup>9<sup>th</sup> City clinical hospital, Minsk.

**Abstract.** Aortic stenosis (AS) has an increasing prevalence in the context of aging population. The estimation of valve stenosis severity and left ventricular (LV) function play a key role in clinical management of patients. Left ventricular ejection fraction (LVEF) is today the only LV function parameter that guides intervention in asymptomatic patients with severe AS. The lower diastolic perfusion time may represent the substrate for LV longitudinal dysfunction which is an early detection in patients with severe AS even in the presence of a normal LVEF. The conserved radial and circumferential function may explain the preservation of LVEF in these patients. Left ventricular torsional deformation has a great role with respect to LV ejection and filling. The identification of early signs of latent LV dysfunction is especially important in asymptomatic patients with severe AS for choose between early surgical intervention and watchful waiting.

The abnormal parameters of LV function such as a peak systolic annular velocity (S'), a tissue Doppler Tei index, a mitral annular plane systolic excursion (MAPSE), a systolic index of contractility (dP/dt), a left ventricular outflow tract ejection acceleration, a LV stroke volume, the global longitudinal strain (GLS) are possible to suspect subclinical disorders of the LV function with a preserved ejection fraction. The abnormal longitudinal LV function is one of the predictors of symptom development and adverse outcomes in asymptomatic patients with severe AS.

**Conclusion.** An integrated approach to assessing the LV systolic function makes it possible to identify subclinical signs of myocardial damage in asymptomatic patients with severe aortic stenosis.

Contacts: Zharykhina Maryna – email: Zharykhina\_Marina@mail.ru