

Assessment of Right Ventricular Systolic Function in Heart Failure with Preserved, Reduced and Mid-Range Ejection Fraction

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OBJECTIVE:

assessment of the prevalence, severity and correlation of right ventricular systolic dysfunction and left ventricular systolic function in heart failure with preserved, reduced and mid-range ejection fraction.

METHODS:

Single-center, cross-sectional study included 150 patients, 50 patients with each category of HF; group I preserved, group II mid-range and group III reduced ejection fraction, left ventricular systolic function was assessed by 3D echo and right ventricular systolic function was assessed by FAC, TAPSE, TDI (S velocity) and 2D strain (GLS).

RESULTS:

There was no statistically significant difference between 3 groups regarding gender, symptoms, prevalence of risk factors (diabetes, hypertension, smoking, and obesity), chronic renal disease but patients of group III were significantly older (p-value <0.001) and had a higher prevalence of CAD

(p-value was 0.004). Prevalence of RV systolic dysfunction in group I was 18%, 22%, 14% and 26% by TAPSE, FAC, S velocity and GLS respectively, the prevalence was higher in group II; 36%, 72%, 40%, 40% by TAPSE, FAC, S velocity and GLS respectively and was much higher in group III 50%, 76%, 64%, 68% by TAPSE, FAC, S velocity and GLS respectively. There wasn't significant correlation between parameters of RV systolic function and LV systolic function in group I but, there was significant positive correlation between TAPSE, S velocity, GLS and EF in group II and III (p <0.001)

CONCLUSION:

the prevalence and severity of RV systolic dysfunction was positively correlated with LV systolic function and the degree of RV dysfunction in HFmrEF is more close to HFrEF than HFpEF.