



Right Ventricular Outflow Tract Fractional Shortening (RVOT FS) As Echocardiography Parameter for Assessment Right Ventricular Function in Systolic Heart Failure

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Abstract : Background: Right ventricular function is an important evaluation in echocardiography assessment. Right ventricular function has important prognostic and therapeutic implications especially in heart failure. Right ventricular performance defines the prognosis in patients with heart failure but the assessment still has challenge because of its complex geometry and the interrelationship with the left ventricle. Right Ventricle Outflow Tract Fractional Shortening (RVOT FS) is a new parameter echocardiography, simple and easy to evaluate right ventricular function in patients with heart failure. **Methods:** This is a cross sectional study of 84 patients heart failure who has ejection fraction < 50% and undergo routine echocardiography in Haji Adam Malik Hospital since August 2018 until October 2018. RVOT FS was measured by M-mode from parasternal short-axis view at aortic valve level with magnified images of RVOT, and the cursor was aligned perpendicular to the anterior RVOT wall. Then, we measured RVOT end-diastolic (RVOT ED) and RVOT end-systolic (RVOT ES) diameters. **Results:** The cut-off value of RVOT FS ≤ 25.5 was 88.4% sensitive and 82.9% specific to identify patients with impaired RV function in patients with heart failure. There was positive correlation between RVOT FS, TAPSE and S' with RV FAC. TAPSE has strongest correlation with RV FAC ($r = 0.788$, $P < 0.001$), S' also showed positive correlation with RV FAC ($r = 0.703$, $P < 0.001$) and RVOT FS ($r = 0.644$, $P < 0.001$). **Conclusion :** The results of this study show that the values of RVOT FS can be used as a new parameter echocardiography for assessment right ventricular function in patients with systolic heart failure.

Keyword : *Right Ventricular Outflow Tract (RVOT)*, Right Ventricle, Systolic Heart Failure.

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