

3rd International Conference on

Radiology and Imaging

August 24-26, 2015 Toronto, Canada

Evaluation of right ventricle systolic function by right ventricular outflow tract systolic excursion using ultrasound

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Background: Assessment of Right Ventricle (RV) systolic function has a prognostic and therapeutic value, and this assessment is not easy by using ultrasound. The aim of this study was to assess a new way to evaluate RV systolic function, by studying Right Ventricular Outflow Tract Systolic Excursion (RVOTSE).

Methods: RVOTSE was measured by using M-Mode from the parasternal short-axis view at the level of the aortic valve, and was defined as the systolic excursion of the right ventricular outflow tract anterior wall endocardium in millimeter. A total of 104 patients were studied and separated into two groups: 51 patients with reduced RV function, RV fractional area change (FAC) <35% and tricuspid annular plane systolic excursion (TAPSE) <1.6 cm] and 53 patients with normal RV function (FAC) ≥35% and TAPS ≥1.6 cm. RVOTSE was measured in the two groups and compared with right ventricular outflow tract fractional shortening (RVOTFS) and tricuspid annular systolic excursion velocity S_c.

Results: The sensitivity of RVOTSE as a method of diagnosing reduced RV systolic function was 98% and the specificity was 100%. The sensitivity of Tissue S_c was 96% and the specificity was 94%. The sensitivity of RVOTFS was 80% and the specificity was 98%. There was no correlation between RVOTSE and ejection fraction, also between RVOTSE and pulmonary artery systolic pressure in patients with reduced RV systolic function. There was a strong correlation between RVOTSE and the other ways to evaluate RV systolic function.

Conclusion: RVOTSE is a new, simple, sensitive and specific ultrasound way to evaluate RV systolic function.

Biography

Farhood Alsoos completed her Master's degree in Cardiology from Damascus University, Syria. He has published many papers in reputed journals. He is currently pursuing his research interests in the field of echocardiography.

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