

JCK Poster

JCK Poster 1 (II-JCKP1)

Basics/New Insights/Others

Chair: Tran Cong Bao Phung (Cardiology Department, Children Hospital 1, Ho Chi Minh City, VietNam)

Sat. Jul 8, 2017 6:15 PM - 7:15 PM Poster Presentation Area (Exhibition and Event Hall)

6:15 PM - 7:15 PM

[II-JCKP1-05] Assessment of Right Ventricular Systolic Function in Patients after Repair of Tetralogy of Fallot with Various Degrees of Pulmonary Regurgitation

○Manatomo Toyono¹, Shunsuke Yamada¹, Mieko Aoki-Okazaki², Tsutomu Takahashi¹ (1. Department of Pediatrics, Akita University, Akita, Japan, 2. Interconnected Medical Education and Support Systems, Akita University, Akita, Japan)

Objective: The objective of the study is to compare advantage between tricuspid annular isovolumic acceleration (IVA) and tricuspid annular plane systolic excursion (TAPSE) for stratification of impact of pulmonary regurgitation (PR) on right ventricular (RV) systolic function in patients after repair of tetralogy of Fallot (TOF).

Methods: IVA was measured by dividing the myocardial velocity during isovolumic contraction by its acceleration time. TAPSE was measured using M-mode echocardiography through the lateral annulus of tricuspid valve in the apical 4-chamber plane. PR degree was assessed by the number of correspondence to the following conditions; 1) diastolic flow reversal in the main pulmonary artery, 2) diastolic flow reversal in the branch pulmonary arteries, 3) pressure half-time of PR signal <100 msec and 4) duration of the PR signal/total duration of diastole ratio <0.77. PR degree was graded from 0 to 4.

Results: Twenty-two patients were enrolled to the study. Age, female, period after the TOF repair and body height of the patients were 11 ± 6 years, 55%, 8 ± 5 years and 137 ± 28 cm, respectively. In all the patients, IVA and TAPSE were 160 ± 27 cm/sec² and 12 ± 2 mm, respectively. PR degree was graded as 2, 3 and 4 in 4, 14 and 4 patients, respectively. By the Kruskal-Wallis test, only IVA showed a significant difference among the 3 PR degrees.

Conclusion: IVA can be a useful index for the stratification of RV function in patients after TOF repair with various degrees of PR.