

P1-137

Two different types of restrictive physiology in adolescents and adult with repaired tetralogy of Fallot.

*Mori Y.(1), Isozaki K.(1), Nakashima Y.(1), Kaneko S.(1), Inoue N.(1), Murakami M.(1), Koide M.(2)
Seirei Hamamatsu General Hospital, Division of Pediatric Cardiology(1);Seirei Hamamatsu General
Hospital. Department of Cardiovascular Surgery(2),
Hamamatsu, Shizuoka, Japan*

Objectives: Restrictive right ventricular physiology (r-RV) has been reported to be favorite late outcome, because it limits pulmonary regurgitation, resulting in less RV dilation and less prolongation of QRS in repaired tetralogy of Fallot (TOF). However, the beneficial effects of r-RV are controversial. The aim of the study was to characterize the clinical differences between with and without r-RV in adolescents and adults with repaired TOF.

Methods: Sixty patients over 15 years old who underwent cardiac magnetic resonance and/or catheterization were reviewed. Blood levels of B-type and atrial natriuretic peptides (BNP, ANP) were measured. Consistent antegrade late diastolic flow in the pulmonary artery by Doppler echocardiography was defined as r-RV.

Results: Median age (range) at the time of evaluation was 25.6 (15.2~62.8) years. The r-RV was identified 18 (30%) of 60 patients. The patients with r-RV had higher levels of ANP, pressure gradients between right atrial pressure (RAp) and diastolic pulmonary artery pressure (PAdp)(RAp – PAdp). There were no differences in RV and LV end-diastolic volumes, ejection fraction (EF), systolic RV pressure, serum levels of BNP, cardiothoracic ratio (CTR) and QRS duration of ECG. Ten of 18 r-RVs had smaller ($<150\text{ml/m}^2$) RV volume. Compared to r-RV with larger RV ($\geq 150\text{ml/m}^2$), r-RV with smaller RV volumes had better RV and LVEF, less prolongation of QRS and smaller CTR.

Conclusions. There are two different types of r-RV defined as the antegrade late diastolic flow in the pulmonary artery. The r-RV with small RV may be associated with favorite late outcome, but not r-RV with large RV.