AP Target Symposium

AP Target Symposium 4 (III-APT4)
Optimizing results in staged surgical management of functionally univentricular hearts – Preparation rather than Selection for Fontan –

Chair:Akio Ikai(The Cardiovascular Center, Mt. Fuji Shizuoka Children's Hospital, Japan)
Chair:Swee Chye Quek (Pediatrics, National University of Singapore, Singapore)
Sun. Jul 9, 2017 8:30 AM - 10:15 AM ROOM 3 (Exhibition and Event Hall Room 3)

8:30 AM - 10:15 AM

[III-APT4-01]A Quantitative Analysis of the Systemic to Pulmonary Collateral Flow in Fontan Circulation by Cardiac Magnetic Resonance

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Keywords:Cardiac Magnetic Resonance, Fontan, Systemic to Pulmonary Collateral

With the prevalence of cardiac magnetic resonance (CMR), a considerable amount of systemic to pulmonary collateral flow (SPC) in Fontan patients has been widely recognized. An aim of this study is to clarify causal relationships between SPC and other various parameters of Fontan circulation. Out of 655 consecutive patients in the Fukuoka Fontan Study database, 288 pts whose Qp/Qs by CMR was 1.0 or over were recruited. The median age at CMR was 13.5 (2.2-40.4) years old. The %SPC was calculated as (Qp-Qs) x100/Qs, and its median was 13.8% (0-95.7%). %SPC was significantly correlated to the smaller pulmonary artery index (Nakata index) before Fontan (p=0.02) and comorbidity of total anomalous pulmonary vein drainage (p=0.04). There was positive correlations between %SPC and the end-diastolic volume of the ventricle (p=0.006), and plasma BNP levels (p<0.001). Furthermore, an increase in %SPC was related to a deterioration in NYHA functional classification (p=0.02). It is concluded that a noninvasive measurement of SPC by CMR is highly effective in an evaluation of Fontan circulation.