

ポスター | 1-05 画像診断

ポスター

画像エコー

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所属正式名称: 小野博(国立成育医療研究センター 循環器科)

[III-P-017]Fallot四徴症術後肺動脈弁逆流に対する Vector Flow

Mappingを用いた新しい心エコー定量評価法の試み

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Keywords: Fallot四徴症, 肺動脈弁逆流, 心エコー

Background: Pulmonary regurgitation (PR) is the most common cause of the RV failure in patients after repair of tetralogy of Fallot (TOF), however, to quantify PR by echocardiography is controversial, thus, it could be measured by cardiac magnetic resonance (CMR). The aim of this study is to validate a new echocardiographic modality, Vector-Flow Mapping (VFM) for quantification of PR. Methods: Seventeen patients of repaired TOF (mean age 16y : range 2.8-31) were enrolled. The color Doppler images of RV outflow view including PA was obtained by Prosound F75 (Hitachi-ALOKA Ltd) with VFM mode, and calculated the both-directional flow across the pulmonary valve as a sum of by integration of multiple sampling gate set on the line along the cardiac cycle. The ratio of regurgitation to antegrade flow of VFM (PRF-VFM) was compared to those of CMR using phase-contrast analysis (PRF-CMR). PRF-CMR >40% is defined as a severe PR. It was also compared with the previous reported indices such as the diastolic reverse flow in peripheral PA branches, PR pressure half time, PR index and PR jet width/annulus ratio. Results: PRF-VFM (38.2±11.6%) was well correlated with PRF-CMR (38.1 ±13.2%) (r=0.83, p<0.01) and there were good agreements (Bias± SD: -1.38±7.3%). To identify severe PR, PRF-VFM >40% had good sensitivity (86%) and specificity (80%) , however other parameters showed high sensitivity (71-100%) but poor specificity (22-44%). Conclusion: PRF-VFM demonstrated a good agreement with PRF-CMR. PRF-VFM is handy diagnostic tool for assessing the severity of PR in repaired TOF patients.