JCK Oral

JCK Oral 8 (III-JCKO8)
Cardiovascular Imaging

Chair:Keisuke Satou(Department of Cardiology Shizuoka Children Hospital, Japan)
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Sun. Jul 9, 2017 11:05 AM - 11:55 AM ROOM 3 (Exhibition and Event Hall Room 3)

11:05 AM - 11:55 AM

[III-JCKO8-03]Cardiac Mechanics in Children post Percutaneous Transcatheter Closure of Perimembranous Ventricular Septal Defect

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Background Percutaneous transcatheter closure of perimembranous ventricular septal defect (pmVSD) with occluder has been most widely used in China.In this study, we aimed to analyze ventricle performance post percutaneous transcatheter closure of pmVSD.
Methods 40 pediatric patients post percutaneous pmVSD closure and 40 healthy children were recruited. All subjects were studied with conventional and tissue Doppler echocardiography. Strain and strain rate of LV and RV were assessed by 2D-STE.
Results 40 pmVSD pediatric patientsand 40 healthy controlswere studied. Mean diameter of pmVSD was 3.82±0.59 mm, mean diameter of pmVSD occluder was 6.3±1.0mm, and mean time after percutaneous pmVSD closure was 3.22±0.78years. No significant differences were observed in LV eject fraction, RV Tei index between pmVSD closure and control. More tricuspid regurgitation was observed in pmVSD closure subjects by measuring the ratio of tricuspid regurgitation jet area and right atrial area. Interventricular septal tissue Doppler image showed less early diastolic, more late diastolic velocity and less e/a ratio in pmVSD closure subjects. No significant difference in global longitudinal and circumferential strain and strain rate between pmVSD closure and control.For pmVSD closure cohort, the diameter of pmVSD occluder correlated negatively with LV longitudinal strain rate and circumferential strain. Furthermore, TRJA/RAA correlated positively with diameter of pmVSD and occluder.
Conclusions It appears that percutaneous closure of pmVSD is safe and effective in selected pediatric patients.

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