

Invited Lecture

Invited Lecture05 (I-IL05)

Chair: Atsuko Kato (National Cerebral and Cardiovascular Center, Japan)

Fri. Jul 9, 2021 1:30 PM - 2:10 PM Track3 (Web開催会場)

[I-IL05] Infants with borderline left heart hypoplasia with successful biventricular outcomes : insights from cardiac magnetic resonance imaging

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The management pathway at the extremes of the hypoplastic left heart spectrum is clear; however, in those with patent mitral and aortic valves and “borderline” hypoplasia of the left ventricle, the initial decision-making process with regards to single versus biventricular pathway is complex and challenging. Infants who achieve biventricular physiology may suffer with residual left-heart pathology causing pulmonary hypertension.

Cardiovascular imaging during this critical assessment stage seeks to quantify functionality of hypoplastic ± stenotic left heart structures, often occurring at multiple levels. Contemporary decision-making recognizes the “growth” potential of these structures and incorporates an expanded armamentarium of cardiac procedural options, including fetal interventions, staging procedures such as the hybrid stage one (arterial duct stenting and bilateral pulmonary artery banding), endocardial fibroelastosis resection and novel mitral valve replacement surgery.

2D-echocardiography has historically been the main determinant in decision-making. Cardiovascular magnetic resonance imaging (CMR) is increasingly being utilized as it provides additional parameters such as ascending aortic flow as well as superior three-dimensional quantification of ventricular volume.

This presentation will focus on the utilization of CMR in the assignment to single and biventricular strategies. As well, the characteristics of successful biventricular hearts i.e. without residual pulmonary hypertension, will be discussed.