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海外招請講演

## 海外招請講演1

## What Is the Data? Biventricular Conversion and Techniques for Left Sided Reconstruction and Growth

座長:佐野 俊二 (岡山大学大学院)

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IL01

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## [IL01-01]What Is the Data? Biventricular Conversion and Techniques for Left Sided Reconstruction and Growth

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Patients born with Borderline left ventricles (LV) continue to pose a vexing problem in terms of management. They are best analyzed sequentially anatomically, starting with the mitral valve morphology, size and function of LV, presence of Endocardial Fibroelastosis (EFE), LVOT obstruction, aortic valve, and aortic arch, as well as physiologically (PGE-dependency, clinical features such as weight, prematurity, presence of other non-cardiac malformations or genetic syndromes). There is currently no best formal scientific way to determine whether a 2-ventricle or a single ventricle pathway is preferable for a given patient. Several echo criteria have been developed, but none have been found to be universally useful. MRI criteria of minimal LV volumes are more specific, but MRIs are not always available to newborns. Thus, this matter remains still as much art as science. In recent years we have been able to "push" more patients with borderline left hearts towards a 2V circulation. However, this has come at a cost of repeated surgeries and the ever-present specter of left atrial hypertension, LV diastolic dysfunction and eventual lung damage (and need for heart-lung transplantation) remains. Surgical techniques used are adapted to the cardiac morphology, and include valve plasty, EFE resection (sometimes repeatedly), creation of a restrictive ASD to force blood flow through the diminutive LV, and valve replacements including mechanical mitral valve replacement, mitral implantation of stented Melody or Sapien valves, or Ross procedures). Meanwhile, outcomes with Fontan circulation continue to improve and "good" Fontan patients do exist.

In summary, 2V repairs in borderline left heart patients should be pursued, but only in selected patients and ideally in centers with extensive experience. Typically, when in doubt, one would initially perform a Stage I Norwood operation (which includes a restrictive ASD and maybe "modified" to allow easier take-down to 2V repair), then re-assess at about 6 months of age with catheterization and MRI before deciding which route to take.