
Symposium

Symposium 1 (I-S01)

Cardiac imaging: "From anatomy to physiology, and now beyond integrated diagnosis of multimodality imaging tools"

Chair: Yuichi Ishikawa (Department of Cardiology, Fukuoka Children's Hospital, Japan)

Chair: Masaki Nii (Cardiac Department, Shizuoka Children's Hospital, Japan)

Fri. Jul 7, 2017 8:40 AM - 10:25 AM ROOM 1 (Exhibition and Event Hall Room 1)

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[I-S01-07 【Keynote Lecture】]From anatomy to physiology and beyond: Integrated diagnosis of multimodality imaging tools

○Mark A. Fogel (Children's Hospital of Philadelphia, USA)

With the proliferation of multiple imaging modalities and the expansion of capabilities within a given technique, the choice of which imaging modalities to use and in what combination has never been greater or more complex. In numerous cases, there are overlapping capabilities such as the measurement of strain or 3-dimensional (3D) imaging making the selection of which test to use even more difficult. In congenital heart disease (CHD), this has opened up new vistas with regard to obtaining anatomy and physiology as well as potential treatments and predictors of future cardiovascular events. In addition, advantages and disadvantages of each test must be weighed against each other. For example, obtaining a peak velocity by echocardiography is much easier than by cardiac magnetic resonance (CMR), however, CMR is the gold standard for biventricular performance and "4-dimensional" flow imaging can only be performed at this time by CMR. Computed tomography can create 3D images of the cardiovascular system in seconds and can assess viability similar to CMR but at the cost of significant radiation exposure, especially in children. These decisions and more have implications for diseases such as single ventricle, tetralogy of Fallot, truncus arteriosus, anomalous origin of the coronary arteries and transposition of the great arteries to name a few. This lecture will discuss the capabilities of multiple imaging modalities used in congenital heart disease, the advantages and disadvantages of each and how to utilize them effectively alone or in combination to various lesions in CHD.