Wed. Jul 6, 2016

第D会場

海外招請講演

海外招請講演2（ IL-02）

Minimizing Morbidity in Pediatric Cardiac Surgery

座長:
原田 順和（長野県立こども病院 心臓血管外科）
11:25 AM - 11:55 AM 第D会場 (オーロラ イースト)

[I-IL-02] Minimizing Morbidity in Pediatric Cardiac Surgery
○Sanjiv Gandhi （British Columbia Children's Hospital, Vancouver, BC, Canada）
11:25 AM - 11:55 AM

海外招請講演

海外招請講演3（ IL-03）

AEPC-YIA　記念講演

座長:安河内 聰（長野県立こども病院 循環器センター）
6:00 PM - 6:40 PM 第D会場 (オーロラ イースト)

[I-IL-03-1] Late causes of death after congenital cardiac surgery - a population-based six-decade study with 98% follow-up
○Alireza Raissadati （Helsinki University Central Hospital）
6:00 PM - 6:40 PM

[I-IL-03-2] Pulmonary arterial stiffness indices assessed by intravascular ultrasound in children with early pulmonary vascular disease: prediction of disease progression and mortality during 20-year follow-up
○Jody Brokelman[1], Ploegstra M.[1], Roos-Hesselink J.W.[2], Douwes J.M.[1], Van Osch-Gevers L.M.[3], Hoendermis E.S.[4], Van den Bosch A.E.[2], Witsenburg M.[2], Bartelds B.[1], Hillege H.L.[5], Berger R.M.F.[1]
（1.Department of Pediatric Cardiology, Center for Congenital Heart Diseases, Beatrix Children’s Hospital, University Medical Center Groningen, Groningen, The Netherlands, 2.Department of Cardiology, Erasmus University Medical Center, Rotterdam, The Netherlands, 3.Department of Pediatric Cardiology, Sophia Children’s Hospital, Erasmus University Medical Center, Rotterdam, The Netherlands, 4.Department of Cardiology, Center for Congenital Heart Diseases, University Medical Center Groningen, Groningen, The Netherlands, 5.Department of Epidemiology, University Medical Center Groningen, Groningen, The Netherlands）
6:00 PM - 6:40 PM

[I-IL-03-3] Twenty-Five-year experience following catheter valvotomy for Pulmonary Atresia with Intact Septum
○Srinivas Ananth Narayen （Kings College London）
6:00 PM - 6:40 PM

第E会場

海外招請講演

海外招請講演1（ IL-01）

小児循環器領域の遺伝子医学の革新

座長:
小垣 滋豊（大阪大学大学院医学系研究科 情報統合医学小児科学）
9:35 AM - 10:05 AM 第E会場 (シンシア ノース)

[I-IL-01] Notch1 Signaling and Aortic Valve Disease: From Human Genetics to Mouse Models
○Vidu Garg （Director of the Center for Cardiovascular Research at Nationwide Children's hospital (OH, USA)）
9:35 AM - 10:05 AM

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Thu. Jul 7, 2016

第C会場

海外招請講演

海外招請講演5（ IL-05）

Evaluating and Interpreting Neurodevelopmental Outcomes in Children with Congenital Heart Disease

座長:
岩本 眞理（済生会横浜市東部病院こどもセンター 小児科）
3:00 PM - 3:30 PM 第C会場 (オーロラ ウェスト)

[II-IL-05] Evaluating and Interpreting Neurodevelopmental Outcomes in Children with Congenital Heart Disease
○Anne Synnes （Neonatologist &Director, Neonatal Follow-Up Program Children's &Women's Health Centre of BC Clinical Professor University of British Columbia）
3:00 PM - 3:30 PM

海外招請講演

海外招請講演8（ IL-08）

Heart Failure as a Systemic Disease: Role of Inflammation

座長:
鈴木 裕之（和歌山県立医科大学）
4:30 PM - 5:00 PM 第C会場 (オーロラ ウェスト)

[II-IL-08] Heart Failure as a Systemic Disease: Role of Inflammation
○Stefan Frantz （Director of the University Department of Internal Medicine III Martin Luther University Halle / Wittenberg）
4:30 PM - 5:00 PM

第D会場

海外招請講演

海外招請講演4（ IL-04）

Congenital Heart Block in the fetus: should we strive for fetal pacing?

座長:
松井 彦郎（長野県立こども病院 小児集中治療科）
11:25 AM - 11:55 AM 第D会場 (オーロラ イースト)

[II-IL-04] Congenital Heart Block in the fetus: should we strive for fetal pacing?
○Gurleen Sharland （Consultant Fetal Cardiology, Fetal Cardiology Unit Evelina Londor Children's Hospital St Thomas'Hospital）
11:25 AM - 11:55 AM

海外招請講演

海外招請講演9（ IL-09）

2 Recent Advances in Pediatric Pulmonary Hypertens

座長:
土井 庄三郎（東京医科歯科大学大学院 小児・周産期地域医療学）
5:20 PM - 5:50 PM 第D会場 (オーロラ イースト)

[II-IL-09] 2 Recent Advances in Pediatric Pulmonary Hypertens
○Ian Adatia （University of Alberta, Cardiac Intensivist, Director, Pediatric Pulmonary Hypertension Service, Stollery Children's Hospital,Edmonton, Canada）
5:20 PM - 5:50 PM

第E会場

海外招請講演

海外招請講演6（ IL-06）

Current advances in Pediatric Interventional Cardiology; from Bench to Cath lab

座長:
中西 敏雄（東京女子医科大学心臓病センター 循環器小児科学）
3:00 PM - 3:30 PM 第E会場 (シンシア ノース)

[II-IL-06] Current advances in Pediatric Interventional Cardiology; from Bench to Cath lab
○Dietmar Schranz （Pediatric Heart Center, Justus-Liebig University, Giessen, Germany）
3:00 PM - 3:30 PM

海外招請講演

海外招請講演7（ IL-07）

Congenital aortic valve repair and fluid dynamics in congenital aortic valve lesions

座長:
麻生 俊英（神奈川県立こども医療センター 心臓血管外科）
3:35 PM - 4:05 PM 第E会場 (シンシア ノース)

[II-IL-07] Congenital aortic valve repair and fluid dynamics in congenital aortic valve lesions
○Giovanni Battista Luciani （Professor and Head, Pediatric Cardiac Surgery Division of Cardiac Surgery University Hospital Verona）
3:35 PM - 4:05 PM

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Fri. Jul 8, 2016

第B会場

海外招請講演

海外招請講演12（ IL-12）

TBD

座長:
佐野 俊二（岡山大学大学院医歯薬学総合研究科 心臓血管外科）
2:35 PM - 3:05 PM 第B会場 (天空 センター)

[III-IL-12] TBD

○Emre Belli （Institue Jacques Cartier）

2:35 PM - 3:05 PM

第C会場

海外招請講演

海外招請講演11（ IL-11）

Cardiopulmonary Resuscitation and Automated External Defibrillation Education in Philadelphia High Schools

座長:
野村 裕一（鹿児島市立病院 小児科）
11:25 AM - 11:55 AM 第C会場 (オーロラ ウェスト)

[III-IL-11] Cardiopulmonary Resuscitation and Automated External Defibrillation Education in Philadelphia High Schools

○Victoria L. Vetter （Professor of Pediatrics The children's Hospital of Philadelphia Perelman School of Medicine at the University of Pennsylvania）

11:25 AM - 11:55 AM

第E会場

海外招請講演

海外招請講演10（ IL-10）

Cardiac resynchronization therapy in congenital heart disease

座長:
賀藤 均（国立成育医療センター）
8:40 AM - 9:10 AM 第E会場 (シンシア ノース)

[III-IL-10] Cardiac resynchronization therapy in congenital heart disease

○Jan Janousek （Children's Heart Center, University Hospital Motol Prague, Czech）

8:40 AM - 9:10 AM

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海外招請講演

海外招請講演2（ IL-02）

Minimizing Morbidity in Pediatric Cardiac Surgery

座長:
原田 順和（長野県立こども病院 心臓血管外科）
Wed. Jul 6, 2016 11:25 AM - 11:55 AM 第D会場 (オーロラ イースト)
I-IL-02

[I-IL-02] Minimizing Morbidity in Pediatric Cardiac Surgery

○Sanjiv Gandhi （British Columbia Children's Hospital, Vancouver, BC, Canada）
11:25 AM - 11:55 AM

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11:25 AM - 11:55 AM (Wed. Jul 6, 2016 11:25 AM - 11:55 AM 第D会場)

[I-IL-02] Minimizing Morbidity in Pediatric Cardiac Surgery

○Sanjiv Gandhi （British Columbia Children's Hospital, Vancouver, BC, Canada）

In 2016, mortality following cardiac surgery for congenital heart disease is uniformly low and continues to improve. In addition to maximizing survival, minimization of morbidity is paramount for these children. This presentation will highlight two areas of perioperative care which may decrease morbidity of patients after cardiac surgery: (1) minimizing the use of blood products and (2) early postoperative extubation.

Allogeneic blood products, common in pediatric cardiac surgery, have several associated potential deleterious consequences; decreasing their usage may mitigate certain adverse effects. We retrospectively reviewed pediatric open-heart surgery cases to investigate the feasibility and clinical outcomes of a restrictive blood transfusion strategy. Our data suggests a restrictive transfusion strategy can be safely implemented in pediatric cardiac surgery. The majority of children with a body weight (BW) >8 kg require no blood products and those with a BW ≤8 kg require only 1 unit of blood, to prime the bypass circuit, during their hospitalization. Zero transfusion is a realistic and a safe option in children >10 kg with a predicted cardiopulmonary bypass duration of less than 90 minutes.

Early extubation has been adopted in some centres for select children following cardiac surgery. This strategy has been associated with improved resource utilization by shortening hospital length of stays, with the potential to reduce postoperative morbidities. We determined the feasibility and assessed the clinical outcomes associated with an early extubation strategy for all children undergoing congenital heart surgery, including neonates (

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海外招請講演

海外招請講演3（ IL-03）
AEPC-YIA　記念講演

座長:安河内 聰（長野県立こども病院 循環器センター）
Wed. Jul 6, 2016 6:00 PM - 6:40 PM 第D会場 (オーロラ イースト)
I-IL-03

[I-IL-03-1] Late causes of death after congenital cardiac surgery - a population-based six-decade study with 98% follow-up

○Alireza Raissadati （Helsinki University Central Hospital）

6:00 PM - 6:40 PM

[I-IL-03-2] Pulmonary arterial stiffness indices assessed by intravascular ultrasound in children with early pulmonary vascular disease: prediction of disease progression and mortality during 20-year follow-up

○Jody Brokelman[1], Ploegstra M.[1], Roos-Hesselink J.W.[2], Douwes J.M.[1], Van Osch-Gevers L.M.[3], Hoendermis E.S.[4], Van den Bosch A.E.[2], Witsenburg M.[2], Bartelds B.[1], Hillege H.L.[5], Berger R.M.F.[1] （1.Department of Pediatric Cardiology, Center for Congenital Heart Diseases, Beatrix Children's Hospital, University Medical Center Groningen, Groningen, The Netherlands, 2.Department of Cardiology, Erasmus University Medical Center, Rotterdam, The Netherlands, 3.Department of Pediatric Cardiology, Sophia Children's Hospital, Erasmus University Medical Center, Rotterdam, The Netherlands, 4.Department of Cardiology, Center for Congenital Heart Diseases, University Medical Center Groningen, Groningen, The Netherlands, 5.Department of Epidemiology, University Medical Center Groningen, Groningen, The Netherlands）

6:00 PM - 6:40 PM

[I-IL-03-3] Twenty-Five-year experience following catheter valvotomy for Pulmonary Atresia with Intact Septum

○Srinivas Ananth Narayen （Kings College London）

6:00 PM - 6:40 PM

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6:00 PM - 6:40 PM (Wed. Jul 6, 2016 6:00 PM - 6:40 PM 第D会場)

[I-IL-03-1] Late causes of death after congenital cardiac surgery - a population-based six-decade study with 98% follow-up

○Alireza Raissadati (Helsinki University Central Hospital)

Introduction: Survival after congenital cardiac surgery has improved significantly during recent decades, yet patients remain at risk for premature death. We investigated late causes of death after congenital cardiac surgery by era and defect severity.

Methods: We obtained data retrospectively from a nation-wide CHD database, including paediatric patients who underwent cardiac surgery at
Results: 10,964 patients underwent 13,876 operations, with 98% follow-up (10,692). Early (
Conclusions: CHD-related deaths have decreased, yet challenge survival after surgery for severe defects. Premature deaths are more common among patients than the general population.

6:00 PM - 6:40 PM (Wed. Jul 6, 2016 6:00 PM - 6:40 PM 第D会場)

[I-IL-03-2] Pulmonary arterial stiffness indices assessed by intravascular ultrasound in children with early pulmonary vascular disease: prediction of disease progression and mortality during 20-year follow-up

○Jody Brokelman[1], Ploegstra M.[1], Roos-Hesselink J.W.[2], Douwes J.M.[1], Van Osch-Gevers L.M.[3], Hoendermis E.S.[4], Van den Bosch A.E.[2], Witsenburg M.[2], Bartelds B.[1], Hillege H.L.[5], Berger R.M.F.[1] (1.Department of Pediatric Cardiology, Center for Congenital Heart Diseases, Beatrix Children's Hospital, University Medical Center Groningen, Groningen, The Netherlands, 2.Department of Cardiology, Erasmus University Medical Center, Rotterdam, The Netherlands, 3.Department of Pediatric Cardiology, Sophia Children's Hospital, Erasmus University Medical Center, Rotterdam, The Netherlands, 4.Department of Cardiology, Center for Congenital Heart Diseases, University Medical Center Groningen, Groningen, The Netherlands, 5.Department of Epidemiology, University Medical Center Groningen, Groningen, The Netherlands)

Introduction: Prognosis in children with pulmonary vascular disease (PVD) is closely linked to right ventricular (RV) failure due to increased RV afterload. Pulmonary arterial (PA) stiffening occurs early in the course of PVD and constitutes a main component of RV afterload. This study evaluates the clinical value of PA stiffness in children with early or advanced PVD, by determining the association of PA-stiffness indices with long-term disease progression and mortality.

Methods: Forty-one children with arterial PVD in early or more advanced stages, defined as mean PA pressure ≥20 mmHg and/or pulmonary to systemic flow ratio ≥1.2, and mean pulmonary capillary wedge pressure
Results: During follow-up, 31 (76%) cases of PVD had reversed and 10 (34%) had progressed. Six patients died due to PVD. Patients with progressed PVD showed significantly lower compliance (p=0.001) and distensibility (p=0.002). Also in a subgroup of patients with favorable hemodynamics at baseline, lower compliance and distensibility were associated with progression of PVD during follow-up (p=0.002 and

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p=0.030). Survival rates differed significantly between patients with high and low compliance (p=0.011) and distensibility (p=0.009).

Conclusions: PA-stiffness indices assessed by IVUS are associated with long-term disease progression and mortality in children with PVD and may complement to conventional hemodynamic evaluation, particularly in early stages of disease.

6:00 PM - 6:40 PM (Wed. Jul 6, 2016 6:00 PM - 6:40 PM 第D会場)

[I-IL-03-3] Twenty-Five-year experience following catheter valvotomy for Pulmonary Atresia with Intact Septum

○Srinivas Ananth Narayen （Kings College London）

Introduction: Catheter perforation of the pulmonary valve (PV) for patients with pulmonary atresia and intact septum (PAIVS) was first pioneered at our institution twenty-five years ago and is now an established procedure. This study investigates the outcome for all patients to identify late complications and predictors of final outcome.

Methods: All patients presenting with PAIVS from 01/05/1990 to 25/12/2015 were identified from the Departmental database. Baseline demographic characteristics and clinical pathway data were collected, with final outcome at last follow-up evaluated on 31/12/2015.

Results: 48 patients were put forward for catheter valvotomy (Figure 1). Median follow-up period was 12.2years (Range 0.3-25.9years), and all deaths were within 90 days of birth. One patient had an embolic stroke at age 4.3 years following TCPC completion, with no further significant late complications or arrhythmias identified. Five patients with BV outcome required surgical RV overhaul procedure at mean age 1.6yr. No patient required an interventional or surgical procedure beyond 10.6 years.

Saturations at one year (Sats1Yr) were a strong predictor of BV versus non-BV outcome with Sats1Yr of 90% predicting BV outcome with sensitivity 75% and specificity 78%.

Conclusions: PV perforation for PAIVS is associated with a good long-term outcome, with few late complications. At up to 25 years' follow-up, the incidence of arrhythmias and ventricular dysfunction secondary to PV regurgitation is low. The initial size and anatomy of the RV is clearly a strong predictor of final outcome, but the independent contribution of Sats1Yr suggests that further factors such as diastolic dysfunction and ventricular fibrosis may play a significant role.

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海外招請講演

海外招請講演1（ IL-01）
小児循環器領域の遺伝子医学の革新

座長:
小垣 滋豊（大阪大学大学院医学系研究科 情報統合医学小児科学）
Wed. Jul 6, 2016 9:35 AM - 10:05 AM 第E会場 (シンシア ノース)
I-IL-01

[I-IL-01] Notch1 Signaling and Aortic Valve Disease: From Human Genetics to Mouse Models

○Vidu Garg （Director of the Center for Cardiovascular Research at Nationwide Children's hospital (OH, USA)）
9:35 AM - 10:05 AM

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9:35 AM - 10:05 AM (Wed. Jul 6, 2016 9:35 AM - 10:05 AM 第E会場)

[I-IL-01] Notch1 Signaling and Aortic Valve Disease: From Human Genetics to Mouse Models

○Vidu Garg (Director of the Center for Cardiovascular Research at Nationwide Children's hospital (OH, USA))

Congenital heart disease (CHD) is the most common type of birth defect. Malformations involving the cardiac outflow tract and semilunar valves account for more than 50% of these cases predominantly due to bicuspid aortic valve (BAV), which has a prevalence of ~1% in the population. Mutations in NOTCH1 are a cause of BAV in humans. We have published a highly penetrant mouse model of aortic valve disease, consisting of dysplastic stenotic and regurgitant aortic valves with associated aortopathy, in Notch1 haploinsufficient adult mice backcrossed into a Nos3-null background. Analysis of Notch1+/-;Nos3-/- compound mutant embryos has demonstrated a spectrum of congenital anomalies involving the cardiac outflow tract, which are the result of loss of Notch1 in endothelial and endothelial-derived cells. Additional investigation using compound mutant mice heterozygous for both Notch1 and a Marfan syndrome disease-causing mutation in Fbn1 demonstrate that haploinsufficiency of Notch1 exacerbates the aortopathy phenotype of the Marfan syndrome mouse (Fbn1C1039G/+). Interestingly, heterozygous loss of Notch1 in the second heart field (SHF) lineage, not endothelial cells, recapitulates the exacerbated aortopathy in this murine model. Our findings support cell lineage specific roles for Notch1 in BAV and associated aortopathy.

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海外招請講演

海外招請講演5（ IL-05）

Evaluating and Interpreting Neurodevelopmental Outcomes in Children with Congenital Heart Disease

座長:

岩本 眞理（済生会横浜市東部病院こどもセンター 小児科）

Thu. Jul 7, 2016 3:00 PM - 3:30 PM 第C会場 (オーロラ ウェスト)

II-IL-05

[II-IL-05] Evaluating and Interpreting Neurodevelopmental Outcomes in Children with Congenital Heart Disease

○Anne Synnes （Neonatologist &Director, Neonatal Follow-Up Program Children's &Women's Health Centre of BC Clinical Professor University of British Columbia）

3:00 PM - 3:30 PM

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3:00 PM - 3:30 PM（Thu. Jul 7, 2016 3:00 PM - 3:30 PM 第C会場）

[II-IL-05] Evaluating and Interpreting Neurodevelopmental Outcomes in Children with Congenital Heart Disease

○Anne Synnes （Neonatologist &Director, Neonatal Follow-Up Program Children's &Women's Health Centre of BC Clinical Professor University of British Columbia）

The neurodevelopmental outcome rates of children born with congenital heart disease are of interest to parents, health care providers, decision makers and society. Outcomes have been assessed at different ages, using different definitions on children with different types of congenital heart disease. Choosing and interpreting results can therefore be difficult. Neuroimaging, mean IQ, proportion with low IQ scores and quality of life outcomes in isolation may lead to different conclusions about neurodevelopmental prognosis. When counselling parents and for decision making, methodologically sound studies that measure outcomes important to parents on populations generalizable to their child should be used. The youngest age that major disabilities can be detected is 18 – 24 months. The Bayley Scales of Infant and Toddler Development, or previous editions, are frequently used standardized tests with limitations in the predictive ability and important differences between the 2nd and 3rd editions. Motor, cognitive, language, behavior, functional outcomes and quality of life can be better evaluated at school age. The American Academy of Pediatrics recommends developmental surveillance for all children with congenital heart disease and screening for high risk subgroups to facilitate early intervention. A follow-up program can provide integrated clinical care, audit, research and teaching. All children, including those born with congenital heart disease, have abilities along a spectrum which vary by age. Outcomes should not be considered as dichotomous normal and abnormal categories.

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海外招請講演

海外招請講演8（ IL-08）

Heart Failure as a Systemic Disease: Role of Inflammation

座長:
鈴木 裕之（和歌山県立医科大学）
Thu. Jul 7, 2016 4:30 PM - 5:00 PM 第C会場 (オーロラ ウェスト)
II-IL-08

[II-IL-08] Heart Failure as a Systemic Disease: Role of Inflammation

○Stefan Frantz （Director of the University Department of Internal Medicine III Martin Luther University Halle / Wittenberg）
4:30 PM - 5:00 PM

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4:30 PM - 5:00 PM（Thu. Jul 7, 2016 4:30 PM - 5:00 PM 第C会場）

[II-IL-08] Heart Failure as a Systemic Disease: Role of Inflammation

○Stefan Frantz （Director of the University Department of Internal Medicine III Martin Luther University Halle / Wittenberg）

Heart Failure as a Systemic Disease: Role of Inflammation

Stefan Frantz

Heart failure is a common disease with high prevalence and a mortality rate that is higher than in some cancers. It is the most frequent diagnosis in Germany for hospital admission. The heart failure syndrome is associated with comorbidities. In a recent registry, we found that over 50% of our heart failure patients have more than seven comorbidities. We therefore have the hypothesis that the heart failure syndrome is not limited to the heart as a single organ but influences all other organs as a systemic disease.
One potential mediator of a systemic disease could be inflammation. Indeed, we could demonstrate that heart failure activates the innate immune system including toll like receptors, macrophages, etc. This is followed by an activation of the adaptive immune system. We could demonstrate that especially CD4+ T-cells are important for adequate healing and prevention of heart failure after a myocardial infarction.

CV
Stefan Frantz is Chair and Director of Internal Medicine and Cardiology at Martin-Luther University in Halle-Wittenberg, Germany. After gaining his medical degree from Wü rzburg Medical School, he undertook postgraduate research at Harvard Medical School, Massachusetts, USA, working with Professor Ralph Kelly. Returning to Germany, he completed his training at the University of Wü rzburg. Professor Frantz' s clinical research interests include heart failure, activation of the immune system after myocardial infarction, and heart– brain interactions. In 2011 he co-founded the Comprehensive Heart Failure Center in Wü rzburg. Professor Frantz is well published in the medical literature, with more than 80 articles in international peer-reviewed journals including European Heart Journal, Circulation Research and Journal of Clinical Investigation.

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海外招請講演

海外招請講演4（ IL-04）

Congenital Heart Block in the fetus: should we strive for fetal pacing?

座長:

松井 彦郎（長野県立こども病院 小児集中治療科）

Thu. Jul 7, 2016 11:25 AM - 11:55 AM 第D会場 (オーロラ イースト)

II-IL-04

[II-IL-04] Congenital Heart Block in the fetus: should we strive for fetal pacing?

○Gurleen Sharland （Consultant Fetal Cardiology, Fetal Cardiology Unit Evelina Londor Children's Hospital St Thomas'Hospital）

11:25 AM - 11:55 AM

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11:25 AM - 11:55 AM (Thu. Jul 7, 2016 11:25 AM - 11:55 AM 第D会場)

[II-IL-04] Congenital Heart Block in the fetus: should we strive for fetal pacing?

○Gurleen Sharland （Consultant Fetal Cardiology, Fetal Cardiology Unit Evelina Londor Children's Hospital St Thomas'Hospital）

Congenital complete heart block is very rare. It may be immune mediated, related to structural heart disease or occur in a structurally normal heart in the absence of maternal auto antibodies. The majority of cases of isolated complete heart block however are related to maternal anti Ro and La abtibodies. Functional abnormalities can occur and injury beyond the AV node can also occur, which have negative impact on the outcome.

Significant mortality and morbidity have been associated with CHB diagnosed both prenatally and postnatally. Various therapeutic options and strategies have therefore been advocated for use before birth in order to improve the outcome. However, to date, no trial of any of these therapies has had sufficient power to prove efficacy. The role of therapy to date therefore remains controversial. This poses the question of whether fetal pacing might be the answer and whether this might be a treatment option for the future and whether its development should be pursued.

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海外招請講演

海外招請講演9（ IL-09）

2 Recent Advances in Pediatric Pulmonary Hypertens

座長:

土井 庄三郎（東京医科歯科大学大学院 小児・周産期地域医療学）

Thu. Jul 7, 2016 5:20 PM - 5:50 PM 第D会場 (オーロラ イースト)

II-IL-09

[II-IL-09] 2 Recent Advances in Pediatric Pulmonary Hypertens

○Ian Adatia （University of Alberta, Cardiac Intensivist, Director, Pediatric Pulmonary Hypertension Service, Stollery Children's Hospital,Edmonton, Canada）

5:20 PM - 5:50 PM

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5:20 PM - 5:50 PM（Thu. Jul 7, 2016 5:20 PM - 5:50 PM 第D会場）

[II-IL-09] 2 Recent Advances in Pediatric Pulmonary Hypertens

○Ian Adatia （University of Alberta, Cardiac Intensivist, Director, Pediatric Pulmonary Hypertension Service, Stollery Children's Hospital,Edmonton, Canada）

Listening to the voice of the heart: Acoustic diagnosis of pulmonary hypertension using automated speech and language recognition inspired algorithms

The diagnosis of pulmonary hypertension is delayed or missed during the early stages of the disease, when it is most treatable, because the clinical signs may be difficult to discern. There is, therefore, a pressing and unmet need to explore diagnostic screening methods that are cost effective, non-invasive and result in a timely diagnosis. We hypothesized that an automated speech- recognition-inspired classification algorithm could differentiate between the heart sounds in subjects with and without pulmonary hypertension and would outperform trained clinicians. Heart sounds, electrocardiograms, and pulmonary artery pressures were recorded simultaneously during catheterization of the pulmonary artery subjects undergoing right heart cardiac catheterization. Digitised heart sound recordings were used to train and test speech-recognition-inspired classification algorithms. We used mel-frequency cepstral coefficients to extract features from the heart sounds, and built Gaussian-mixture models to classify the features as pulmonary hypertension or non-pulmonary hypertension. Physicians, blinded to all clinical data and patient identity listened to heart sound recordings and attempted a diagnosis. We studied 164 subjects: 86 subjects with pulmonary hypertension (mean pulmonary artery pressure 40.0 ± 11.5 mmHg) and 78 without pulmonary hypertension (mean pulmonary artery pressure 16.5 ± 4.5 mmHg) (p

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海外招請講演

海外招請講演6（ IL-06）

Current advances in Pediatric Interventional Cardiology; from Bench to Cath lab

座長:

中西 敏雄（東京女子医科大学心臓病センター 循環器小児科学）

Thu. Jul 7, 2016 3:00 PM - 3:30 PM 第E会場 (シンシア ノース)

II-IL-06

[II-IL-06] Current advances in Pediatric Interventional Cardiology; from Bench to Cath lab

○Dietmar Schranz （Pediatric Heart Center, Justus-Liebig University, Giessen, Germany）

3:00 PM - 3:30 PM

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3:00 PM - 3:30 PM (Thu. Jul 7, 2016 3:00 PM - 3:30 PM 第E会場)

[II-IL-06] Current advances in Pediatric Interventional Cardiology; from Bench to Cath lab

○Dietmar Schranz (Pediatric Heart Center, Justus-Liebig University, Giessen, Germany)

There has been a revolution in cardiac catheterization over the last two decades. Improvements from fetal life to adulthood were achieved by technical innovations and physiopathological-based novel strategies. Minimal-invasive procedures could be achieved despite concomitant surgical improvements. Considering the heart and circulation as an unity, transcatheter interventions were developed to treat vessel obstructions from systemic and pulmonary veins to heart-neighboring great arteries, even lymphatic interventions became successfully to treat Fontan-patients with plastic bronchitis. Fetus and newborns with obvious univentricular hearts could be palliated by pre-and postnatal interventions, in part to resuscitate a bi-ventricular circulation. Transcatheter devices are meanwhile routinely used to close intracardiac defects, but it became obvious that not any hole should be closed; in opposite, creation of atrial communication might be a novel strategy in particular to treat diastolic failing hearts, meanwhile diastolic devices are developed from several companies. We learned by observing the nature that communications achieving a parallel circulation might be able to avoid or delay heart, heart-lung transplantation. Obstructed valves can be efficiently ballooned, the aortic valve by utilizing rapid pacing; replacement of the pulmonary and in adults of the aortic valve became to a routine approach, the tricuspid and mitral replacement by individualized procedures. Absorbable stents and devices are still in development, but currently not available as it would be appreciated by all pediatric cardiologists worldwide.

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海外招請講演

海外招請講演7（ IL-07）

Congenital aortic valve repair and fluid dynamics in congenital aortic valve lesions

座長:

麻生 俊英（神奈川県立こども医療センター 心臓血管外科）

Thu. Jul 7, 2016 3:35 PM - 4:05 PM 第E会場 (シンシア ノース)

II-IL-07

[II-IL-07] Congenital aortic valve repair and fluid dynamics in congenital aortic valve lesions

○Giovanni Battista Luciani （Professor and Head, Pediatric Cardiac Surgery Division of Cardiac Surgery University Hospital Verona）

3:35 PM - 4:05 PM

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3:35 PM - 4:05 PM (Thu. Jul 7, 2016 3:35 PM - 4:05 PM 第E会場)

[II-IL-07] Congenital aortic valve repair and fluid dynamics in congenital aortic valve lesions

○Giovanni Battista Luciani (Professor and Head, Pediatric Cardiac Surgery Division of Cardiac Surgery University Hospital Verona)

Aortic valve disease is the by far the most common native and postoperative cardiac valve lesion presenting in children and adults with congenital heart defects. Aside from native valve dysplasia, primarily in the form of bicuspid or unicuspid disease, the population with systemic semilunar valve dysfunction after repair of cono-truncal lesion is steadily growing. Given the young, sometime neonatal, age at onset therapeutic solutions are destined to be palliative in nature. For the very same reason, survival and functional outcome are expected to accommodate growth, education, employment, pregnancy and physical activity. Surgical management of aortic valve disease, native or recurrent, has clearly shifted from replacement to reparative strategies. Due to improved understanding of systemic semilunar valve pathophysiology, repair techniques have matured into reproducible and dependable therapies in aortic regurgitation and in select cases of stenosis or mixed disease. Institutional experience over the last 14 years shows that repair is associated with negligible early and late mortality and satisfactory freedom from cardiac reintervention. Considering the physiological quality of life and the preservation of subsequent replacement strategies (surgical, catheter-based), repair should be considered the gold standard for management of young patients with congenital aortic valve disease. Recently, progress in the field of bioengineering, in particular computational fluid dynamics (CFD), using geometric meshes derived from in vivo imaging techniques (MRI, CT) and finite element mathematical computation, has resulted in further understanding of cardiovascular pathophysiology. This has allowed definition of the complex interaction between congenital aortic or systemic semilunar valve disease and ascending aortic lesions, enhancing the ability to plan repair strategies and to predict late functional outcome.

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海外招請講演

海外招請講演12（ IL-12）

TBD

座長:
佐野 俊二（岡山大学大学院医歯薬学総合研究科 心臓血管外科）
Fri. Jul 8, 2016 2:35 PM - 3:05 PM 第B会場 (天空 センター)
III-IL-12

[III-IL-12] TBD

○Emre Belli （Institue Jacques Cartier）
2:35 PM - 3:05 PM

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2:35 PM - 3:05 PM (Fri. Jul 8, 2016 2:35 PM - 3:05 PM 第B会場)

[III-IL-12] TBD

○Emre Belli （Institue Jacques Cartier）

TBD

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海外招請講演

海外招請講演11（ IL-11）

Cardiopulmonary Resuscitation and Automated External Defibrillation Education in Philadelphia High Schools

座長:

野村 裕一（鹿児島市立病院 小児科）

Fri. Jul 8, 2016 11:25 AM - 11:55 AM 第C会場 (オーロラ ウェスト)

III-IL-11

[III-IL-11] Cardiopulmonary Resuscitation and Automated External Defibrillation Education in Philadelphia High Schools

○Victoria L. Vetter （Professor of Pediatrics The children's Hospital of Philadelphia Perelman School of Medicine at the University of Pennsylvania）

11:25 AM - 11:55 AM

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11:25 AM - 11:55 AM (Fri. Jul 8, 2016 11:25 AM - 11:55 AM 第C会場)

[III-IL-11] Cardiopulmonary Resuscitation and Automated External Defibrillation Education in Philadelphia High Schools

○Victoria L. Vetter （Professor of Pediatrics The children's Hospital of Philadelphia Perelman School of Medicine at the University of Pennsylvania）

Background: Bystander cardiopulmonary resuscitation (CPR) rates are low. Our study aim was to encourage Philadelphia high school students to develop CPR/AED (automated external defibrillator) training programs and to assess their efficacy. The students focused on developing innovative ways to learn the skills of CPR/ AED use, to increase willingness to respond in an emergency, and to retain effective psychomotor resuscitation skills.
Methods: Health education classes in 15 Philadelphia School District high schools were selected, with one Control and one Study Class per school. Both completed CPR/AED pre- and post-tests to assess cognitive knowledge and psychomotor skills. After pre-tests, both were taught CPR skills and AED use by their health teacher. Study Classes developed innovative programs to learn, teach, and retain CPR/AED skills. The Study Classes competed in multiple CPR/AED skills events at a CPR/AED competitive event (CPR/AED Olympics).
Results: All students' cognitive and psychomotor skills improved with standard classroom education (p
Conclusion: Students who developed creative and novel methods of teaching and learning resuscitation skills showed outstanding application of these skills in a Mock Code with remarkable psychomotor skill retention, potentially empowering a new generation of effectively trained CPR bystanders.

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海外招請講演

海外招請講演10（ IL-10）

Cardiac resynchronization therapy in congenital heart disease

座長:
賀藤 均（国立成育医療センター）
Fri. Jul 8, 2016 8:40 AM - 9:10 AM 第E会場 (シンシア ノース)
III-IL-10

[III-IL-10] Cardiac resynchronization therapy in congenital heart disease

○Jan Janousek （Children's Heart Center, University Hospital Motol Prague, Czech）
8:40 AM - 9:10 AM

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8:40 AM - 9:10 AM (Fri. Jul 8, 2016 8:40 AM - 9:10 AM 第E会場)

[III-IL-10] Cardiac resynchronization therapy in congenital heart disease

○Jan Janousek （Children's Heart Center, University Hospital Motol Prague, Czech）

Cardiac resynchronization therapy in congenital heart disease

Jan Janouš ek, Children's Heart Centre, 2nd Faculty of Medicine, Charles University in Prague and Motol University Hospital, Prague, Czech Republic

Cardiac resynchronization therapy (CRT) is an established treatment option for adult patients suffering from heart failure due to idiopathic or ischemic cardiomyopathy associated with electromechanical dyssynchrony. A limited evidence exists suggests efficacy of CRT in patients with congenital heart disease (CHD). Due to the heterogeneity of structural and functional substrates CRT implantation techniques are different with a prevailing thoracotomy or hybrid approach. Efficacy of CRT in CHD seems to depend on the anatomy of the systemic ventricle with best results achieved in systemic left ventricular patients upgraded to CRT from conventional pacing. Indications to CRT in patients with CHD have been recently reviewed in the PACES/HRS Expert Consensus Statement on the Recognition and Management of Arrhythmias in Adult Congenital Heart Disease. They include patients with systemic left, right and single ventricular anatomy along with electromechanical dyssynchrony caused by bundle branch block or conventional ventricular pacing. Due to lack of randomized prospective studies the recommendations are based mostly on C level of evidence. Despite many differences CRT seems to offer a similar benefit as to adult patients with idiopathic or ischemic cardiomyopathy and should be considered whenever electromechanical dyssynchrony is encountered along with heart failure.

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