

Sun. Jul 9, 2017

ROOM 3

JSPCCS-TSPC Joint Symposium Contemporary ECMO in Children

JSPCCS-TSPC Joint Symposium Contemporary  
ECMO in Children (III-TJS)

Chair:Hajime Ichikawa(Pediatric Cardiovascular  
Surgery,National Cerebrand Cardiovascular Center, Japan)  
7:30 AM - 8:20 AM ROOM 3 (Exhibition and Event Hall Room  
3)

[III-TJS-01] Contemporary ECMO in Japan (Shizuoka  
experience)

○Masaki Osaki (Department of Cardiac Critical  
Care, Shizuoka, Japan)

7:30 AM - 8:20 AM

[III-TJS-02] Contemporary ECMO in Children

○Yih-Sharng Chen (Cardiovascular Surgery,  
National Taiwan University Hospital, Taiwan)

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### [III-TJS-02] Contemporary ECMO in Children

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### [III-TJS-01] Contemporary ECMO in Japan (Shizuoka experience)

○Masaki Osaki (Department of Cardiac Critical Care, Shizuoka, Japan)

Extracorporeal life support (ECLS) is an important device in the management of children with severe refractory cardiac and or respiratory failure. V-A ECMO is commonly used in a variety of settings to provide support for critically ill patients with cardiac disease, and the number of ECMO support after cardiac surgery has been increasing for the last 20 years. In Shizuoka Children's Hospital, we have experienced more than 100 ECMO runs, and the recent data shows the successful weaning of ECMO is about 80% and hospital discharge is more than 60%. In my talk, I would like to share our cardiac ECMO experience and current issues, and to focus on ECMO support for the patients with single ventricle physiology. Another application of ECMO is an extracorporeal cardiopulmonary resuscitation (E-CPR). We introduced E-CPR protocol in 2007 and achieved survival rate more than 50%. Issues around E-CPR, neurological outcome, other organ failures will be discussed.

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### [III-TJS-02] Contemporary ECMO in Children

○Yih-Shang Chen (Cardiovascular Surgery, National Taiwan University Hospital, Taiwan)

Extracorporeal life support (ECLS) is an important device in the management of children with severe refractory cardiac and or pulmonary failure. Although intra-aortic balloon pump is applicable for the adolescent and larger children, it rarely to be applied in infant or neonate. Two forms of ECLS are available for neonates and children: extracorporeal membrane oxygenation (ECMO) and ventricular assist device (VAD). Both these techniques have their own advantages and disadvantages.

Even though exciting progress is developed in VADs for long-term mechanical support in children, ECMO remains the mainstay of mechanical circulatory support with complex anatomy. ECMO is commonly used in a variety of settings to for critically ill patients with cardiac disease. When the decision is made, a strict selection of patients and timing of intervention should be performed, therefore it could avoid the increase in mortality and morbidity of these patients. However, ECMO usually is applied "mergently" rather than "urgently".

With the increase in familiarity with ECMO, new indications have been added, such as extracorporeal cardiopulmonary resuscitation (ECPR). The promising outcomes advocate more centers organizing the special team to keep the high-standard care. Reasonable survival rates have been achieved in recent publication.

Contraindications to ECLS have reduced in the last 5 years and many centers support patients with functionally univentricular circulations. Improved results have been recently achieved in this complex subset of patient.