

JCK E-Oral Presentation

JCK E-Oral Presentation 2 (III-JCKEOP02)

Chair: Atsuko Kato (Division of Cardiology, The Labatt Family Heart Centre, Department of Pediatrics, The Hospital for Sick Children, University of Toronto, Toronto, Canada)

Chair: Takaya Hoashi (Department of Pediatric Cardiovascular Surgery, National Cerebral and Cardiovascular Center, Suita, Japan)

Sun. Jul 9, 2017 1:00 PM - 2:00 PM E-Oral Presentation Area (Exhibition and Event Hall)

1:00 PM - 2:00 PM

[III-JCKEOP02-04] Minimally invasive epicardial implantable cardioverter-defibrillator placement in a young child

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The use of implantable cardioverter-defibrillator (ICD) therapy for prevention of sudden cardiac death in the pediatric population has been increasing. However, the use of transvenous ICD lead systems is limited in younger children and in patients with congenital heart disease. Alternative techniques such as epicardial patch and subcutaneous systems require extensive surgery with often a full sternotomy or thoracotomy.

We report a case of successful minimally invasive pericardial ICD implantation in a 16kg child. The patient was a 6-year-old girl with left ventricular non-compaction. She had ventricular fibrillation (VF) arrest from which she was successfully resuscitated with an automated external defibrillator (AED). She recovered without any neurological consequences and ICD implantation was indicated for secondary prevention. Through a small subxiphoid incision, a transvenous ICD dual coil was advanced and screwed into the oblique sinus pericardium under fluoroscopic guidance. An additional sense-pace lead was sutured onto the RV apex, and the generator was placed in the upper abdominal wall through the same incision. Defibrillation threshold testing demonstrated successful defibrillation at 15J. Post implant, the patient had two episodes of appropriate shock due to VF. The ICD system continues to show stable impedance at 3 months follow-up. To our knowledge, this is the first case report in Asia of pericardial ICD placement with a minimally invasive subxiphoid approach.