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Single center results after cardiac transplantation in infants and small children

Lale Hakami, Christian Hagl, Nikolaus Haas, Robert Dalla Pozza, Sarah Ulrich, Anja Lehner and Linda Haase
Ludwig Maximilians University, Germany

Objectives: Heart transplantation is the last surgical option for infants and young children with congenital heart failure after failed conventional repair or palliative procedures. We aim to present our results in a retrospective and descriptive analysis.

Methods: Eighteen heart transplantations on children (nine females and nine males) were performed from 1988 to 2015. The range of age was between 0 days and three years. Indications for a transplantation were hypoplastic left heart syndrome (n=14), non-compaction-syndrome (n=2), Bland-White-Garland-syndrome (n=1) and transposition of the great arteries (n=1). Fourteen children (78%) had a previous cardiac surgery. Four patients (22%) required mechanical circulatory support for bridging: ECMO (n=2; 11%), or LVAD and ECMO (n=2; 11%). Fifteen (83%) underwent a biatrial method, three (17%) a bicaval one.

Results: The median waiting time after listing was 68 days (min: 0 days, max: 386 days, standard deviation (SD): 102.8 days). The overall survival was 61%, 13 children (72%) survived the first year. Two patients (11%) had transplantation. The median time patients spent at intensive care unit was 17 days (min: 1 day; max: 121 days). They were respirated for seven days (min: 1 day; max: 91 days). Perioperative factors we analyzed were: the median myocardial ischemia time was 236 minutes. The median aortic clamp time was 95 minutes; the median time of circulatory arrest was 60 minutes. Three children (17%) got a pericardial effusion. Two patients (11%) suffered each: bleeding, cardiac arrhythmias, diaphragmatic paresis and cerebral complications. Five (28%) got a lymphoproliferative disease. Seven children (39%) got a coronary graft vasculopathy. Two (11%) needed interventional therapy. Three (17%) got a cardiac pace maker. According to our data, six children had a rejection which called for treatment.

Conclusion: Heart transplantation is still the best therapeutic option after end-stage heart failure in children. Cumulative results suggest one additional year of life in more than 70% and a survival of more than 20 years are possible. These results were comparable to those of the ISHLT registry in pediatrics.

Biography

Lale Hakami has her expertise in Pediatric Cardiac Surgery in infants and newborn. She is a German-Board-Certified Cardiac Surgeon with a sub specialization in Pediatric Cardiac Surgery. From 2006-2008, she was the Junior Consultant of the Congenital Heart Surgery at the University Hospital Erlangen/Germany. From 2008-2009, she was Research Fellow at the Children's Hospital Boston, USA. From 2009 to 2011, she was the Director of Pediatric Cardiac Surgery in Mainz, Germany. From 2011-2014, she was the Senior Consultant in Children Heart Center in Linz, Austria. From 2014, she has been the Senior Consultant at the University Hospital Munich, Germany and University Lecturer of Pediatric Cardiac Surgery at Ludwig Maximilians University (LMU) Munich, Germany. Her particular experience is in single ventricle physiology and heart transplantation in infants and newborn.

lale.hakami@med.uni-muenchen.de

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