Long term follow-up after heart transplantation in very young children

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The aim of this study was to review long-term follow-up of heart transplanted small children to assess prognosis and outcomes.

Material and methods: Patients who underwent orthotopic heart transplantation (OHT) within the first 3 years of life were included in the study. Demographics, clinical data, events, outcomes and survival were assessed.

Results: Among 96 paediatric heart transplantations performed in a French single-centre, 25 were included in the study (10 males, 15 females). Among them, 10 (40%) were on VAD support at the time of OHT. Age at OHT was 1.5 ± 0.9 years (median 1.2). Underlying cardiac disease was congenital in 4 (16%) or idiopathic cardiomyopathy in 21 (84%). Post-transplant follow-up was 7.1 ± 7 years (range 1day to 22.7) and was > 10 year in 7 cases (28%). Three patients died at 1st day, 2nd year and 4th year post-transplant. Mean age of survivors at the time of the study was 9.1 ± 7.3 years (range 1.5 to 23.6). One acute rejection episode occurred in 2 patients, at 1st month and one at 11st year. One post-transplant lympho-proliferative disease occurred at 14th year post-transplant and was successfully cured. Graft coronary disease occurred in 2 cases (8%), who underwent 2nd-heart and kidney transplantation at 16th and 22th year after first transplant. All others were free from coronary disease with normal graft function. End-stage renal failure occurred in the 2 re-transplanted cases. Severe renal dysfunction was present in 3 cases (no dialysis), moderate in 3 cases, and 17 had normal renal function. Linear growth was normal in all patients, except the 2 cases with end-stage renal failure, despite maintenance low dose steroids in 80% of the survivors. All are in NYHA class I, except the 2 re-transplanted cases who were in class IV at the time of 2nd transplant. Patient survival was 96% at 1-year, 90.7% at 3-year and 83% at 10-year post-transplant. Graft survival was respectively 96%, 90.7%, 83% and 66% at 1, 3, 10 and 16-year follow-up.

Conclusion: Long-term survival of very young heart transplant recipient is acceptable, with low incidence of graft coronary disease and optimal functional status and growth.