Long-term survival and reinterventions after surgical correction of truncus arteriosus: a population based study.

Department of Paediatric Cardiology, The Queen Silvia Children’s Hospital, Sahlgrenska University Hospital, Gothenburg, Sweden. (1)
Department of Paediatric Cardiology, University Hospital Skåne, Lund, Sweden. (2)

Introduction
We evaluated long-term survival and reinterventions of patients operated for truncus arteriosus (TA) in Sweden.

Methods
Patient files were studied and survival was cross-checked against the National Population Registry in Sweden as of Jan 1st 2012. From Jan 1st 1994 to Dec 31st 2011, 80 patients (42 girls/38 boys) with TA were operated in Sweden. Median age and weight at first surgery was 29.5 days (3-510) and 3.4 kg (2.0-8.5). Mean gestational age was 38.5 ± 2.4 weeks with 15 (18.8%) born prematurely. Mean cardiopulmonary bypass time and aortic cross clamp time were 177.2 ± 40.3 minutes and 83.8 ± 27.6 minutes, respectively. An aortic homograft was used in 35, a pulmonary homograft in 36 and a Contegra graft in six patients. The mean size of the original right ventricle to pulmonary artery conduit was 11.4 ±1.8 mm. Interrupted aortic arch was corrected in 14 patients (17.5%) and surgery on the truncal valve was performed in 11 patients at the time of initial repair.

Results
One early and seven late deaths occurred (1.3% and 8.8%). Median follow-up time was 6.9 years (44 days to 18 years). Reinterventions were performed in 54 patients, altogether 167 surgical or catheter procedures. In 48 patients conduit replacement was performed with 14 needing a second conduit replacement. The first conduit replacement was done at a mean time of 4.3 +/- 3.7 years after initial repair. Freedom from conduit replacement was 87.5%, 61.3% and 47.5% after one, five and 10 years. Surgery for pulmonary artery branch stenosis was performed at 21 occasions. Aortic valve replacement was performed in 21 patients. Freedom from any catheter treatment was 87.5%, 78.8%, 72.5% after one, five and 10 years. Ballon dilatation or stenting of the conduit was performed at 21 occasions and of a pulmonary artery branch at 28 occasions. Three patients had balloon dilatation or stenting of the aortic arch.

Conclusions
Despite early complex surgery and a high frequency of reinterventions, mid- and long-term survival after repair for truncus arteriosus was good in this complete 18-year national cohort.