Impact of antenatal diagnosis on outcomes of neonates with Hypoplastic Left Heart Syndrome

Department of Pediatric and Congenital Cardiology, University of Lyon Medical Center, France (1)
Department of Cardiothoracic Surgery, University of Lyon Medical Center, France (2)

The objective of this study was to assess the influence of antenatal diagnosis of HLHS on postnatal outcomes.

Material and methods: This is a retrospective review of French single-centre records of neonates with diagnosis of HLHS. Clinical data, therapeutic management, outcomes were assessed. Comparison were made between groups with and without antenatal diagnosis, and between periods before and after 2005 (date of initiation of Norwood Program).

Results: Among 95 neonates (56 males= 59%) with HLHS, 44 (46%) were diagnosed prenatally (PreND group) and 51 (53%) after birth (PostND group). Birth weight was 3 ± 0.5kg. Age at diagnosis in PostND group was 4 ± 6 days. All patients were free from symptom in the PreND group, while PostND group cases presented with heart failure (42%), cardiogenic shock (24%), cyanosis (12%), heart murmur (8%) or associated symptoms (14%). Age at Norwood procedure was 6 ± 2 days in PreND and 9 ± 4 days in PostND (p= 0.01). Time from diagnosis to surgery did not differ between groups (mean 6 days). Survival was similar between groups. Because of less termination of pregnancy, 71% (22 of 31 cases) of neonates with HLHS were diagnosed prenatally since 2005, compared with only 34% (22 of 64) before 2005 (p< 0.01).

Conclusion: Antenatal diagnosis may prevent acute postnatal cardiac failure in neonates with HLHS and allow early Norwood procedure, but it does not impact on long-term postoperative outcome.