MP2-3


Sorlandet Hospital, Arendal, Norway (1); University of Bergen, Bergen, Norway (2); Oslo University Hospital, Oslo, Norway (3)

Objectives: New diagnostic tools and improved treatment options have led to increased survival of children with CHD. In the present nation-wide study including all children with CHD born in Norway 1994-2009, we have assessed time trends in operative mortality.

Methods: Information on children with CHD was ascertained from national health registers (The Medical Birth Registry of Norway and the Norwegian Cause of Death Registry) and databases (Oslo University Hospital’s clinical database for congenital heart defects and the Cardiovascular Disease in Norway (CVDNOR)). All children were followed until 31 December 2012. Operative mortality was defined as all deaths that occurred during the hospitalization in which cardiac surgery was performed, regardless of length of stay or deaths occurring after discharge from the hospital within 30 days of the procedure. Time trends in operative mortality among children with cardiac surgery during the first two years of life were analyzed using Joinpoint regression program and are presented as the expected annual percent changes with 95% confidence interval (CI), describing trends by periods, using the best-fit model.

Results: Among the 943,871 live births in Norway 1994-2009, CHD were identified in 11,272 (1.2%) children, of whom 2,559 (22.7%) underwent cardiac surgery before two years of age. Comparing the first (1994-1998) and last five-year periods (2005-2009), the median time to first surgical procedure was significantly reduced from 93 days to 53 days (p< 0.001). The complexity of surgery described by median Aristotle score increased from the first five-year period (7.4±2.5) to the last (7.8±2.9) (p< 0.001). Among children with cardiac surgery before two years of age, only 162 (6.3%) died due to causes related to the surgical procedure. The operative mortality was significantly reduced with an annual percent change (APC) of -9.6 (95% CI: -12.6; -6.6) (figure).

Conclusions: Despite earlier and more complex surgery the operative mortality in children born 1994-2009 with congenital heart defects was reduced in Norway.