

Impact of prenatal diagnosis of congenital heart disease on neonatal outcome in a regional case controlled study (Canton of Vaud, Switzerland)

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Introduction: Little epidemiologic evidence exists on the impact of a regionally organized fetal screening program. This study reports on the outcome of a fetal cardiac screening program in the Swiss canton of Vaud, population of 684`922 comparing the diagnostic data to the Eurocat register (ER) from 1.5.2003 to 31.12.2008

Methods: 40'567 births were registered with 572 cases of congenital cardiac pathology (CCP). The CCP were sorted in separate categories based on the severity.

Results: 126 of the 572 CCP could be attributed to 4 groups considered major cardiac congenital malformations. Prenatally diagnosed in this population were 83/126, 67%.

Group 1 (31), all CCP for which only palliative care is available, detected antenatally (28/31, 90.3%), resulting in TOP in 24 (85.7%). 7 born alive (4 diagnosed prenatally) of which 4 died (comfort care) 3 went on to be operated.

Group 2 (6 cases) severe heart disease requiring immediate postnatal intervention, TGA. 4 detected prenatally (66.7%), 2 TOP associated with chromosomal anomaly, 3 underwent arterial switch, 1 non-diagnosed TGA died.

Group 3 (heart disease requiring postnatal care but deferred surgical or interventional correction, conotruncal anomalies, AVSD), 47 cases in the ER, 33/47 detected prenatally (70.2%). 30/47 had a chromosomal anomaly, 20 TOP, 26 born alive, 1 died in utero. Of the 26 born alive, 24 had surgical correction, 1 died shortly after birth (pulmonary atresia type of Fallot) and 1 (with associated malformation/VACTERL) received palliative care and died subsequently.

Subgroup 3b (AVSD) 22 patients in the ER, 18 had a chromosomal abnormality (15 T21, 3 T18), 2 were dysmorphic, 2 were normal. Prenatal diagnosis 19/22, TOP in 15 cases (15/15 chromosomal abnormalities), 7 born alive with subsequent surgical correction.

Group 4 (very mild abnormalities) 466 included in the Eurocat register of which only a small percentage (no TOP) was diagnosed, but which had no impact on the outcome.

Conclusion: The study shows that in the most severe group of congenital heart disease interruption of pregnancy reaches 86% in the prenatal diagnosed group.

In the transposition group the number of cases is too small to draw conclusions.