

Termination of Pregnancy Epidemiology following Fetal Congenital Heart Disease Diagnosis

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Objectives: To document the probability of Termination of Pregnancy (TOP) following fetal Congenital Heart Disease (fCHD) diagnosis in a Mediterranean population.

Methods: Retrospective study of medical reports and fetal echocardiogram findings performed over 6 years (1997-2013) in the only referral center for fetal cardiology available on an island of 600.000 inhabitants. Critical fCHD were considered cases with probable ductal dependent postnatal circulation. Caryotype findings and pregnancy outcome regarding TOP were obtained from families or treating physicians. Odds Ratios (O.R) and 95%C.I. for TOP following diagnosis of any fCHD, critical fCHD, presence of caryotype abnormalities have been estimated, using Pearson Chi Square analysis.

Results: 1808 out of 1847 fetuses (1804 pregnancies), with complete medical information, evaluated <24th GW, were included. The overall incidence of TOP was 1.8% (n=32), of fCHD 27% (n=499), of critical fCHD 1.9% (n=34). Caryotyping was available in 10% of cases (n=185), with 13% of them (n=25) being abnormal.

The probability of TOP was 5.7% following diagnosis of any fCHD vs 0.2% in the absence of fCHD, corresponding to O.R: 26.2 (7.9-86.8), $p < 0.001$ for abortion following fCHD diagnosis. The diagnosis of critical fCHD was associated with an O.R: 185 (76-449), $p < 0.001$ for TOP, as 19/13 cases (56%) with critical fCHD (with available outcome data) vs 12/1771 (0.7%) of non-critical or absence of fCHD opted for TOP.

CHD specific TOP rates were documented: VSD (2/239), AVSD (3/8), HLHS (3/5), P.Atresia (5/5), Tr.Atresia (1/2), DORV (2/4), TOF (3/9), Truncus Art (1/2), TAPVC (1/1), CoA (1/12), DILV (1/2). The presence of caryotype abnormalities increased in a lesser extend the TOP probability (O.R: 3, 0.9-9.6) overall. However the incidence of known caryotype abnormalities in fCHD and critical fCHD groups did not differ significantly between subgroups deciding for TOP compared to those with pregnancy continuation.

Conclusions: Detection of fCHD and critical fCHD was associated 6% and 56% chance for TOP, respectively. fCHD type and severity influenced TOP probability, independently of fetal caryotype findings. As the epidemiology of liveborn CHD is affected by antenatal CHD diagnosis, further study is needed to document factors that influence family decisions while support services should be established.