

Adverse obstetric outcomes in pregnancies with major fetal congenital heart defects

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Objective

To investigate the risk of adverse obstetric outcomes defined as preeclampsia, low birth weight < 2500 g, preterm birth and placental abruption in pregnancies complicated by major fetal congenital heart defects.

Methods

A nationwide cohort study with prospectively collected data of all singleton pregnancies in Denmark from 2008 to 2018 including live births after gestational week 22⁺⁶. All data on maternal characteristics and outcome of the pregnancy were retrieved from the Danish Fetal Medicine Database. Major congenital heart defects included univentricular heart, transposition of the great arteries, congenitally corrected transposition of the great arteries, truncus arteriosus, interrupted aortic arch, atrioventricular septal defects, double outlet right ventricle, coarctation of the aorta, Ebstein's anomaly, pulmonary atresia with ventricular septal defect, pulmonary atresia with intact ventricular septum, and tetralogy of Fallot. Children with chromosomal aberrations were excluded. Relative risks were calculated using log-linear Poisson models and adjusted for maternal BMI and maternal age.

Results

Of the 510 330 pregnancies included in the cohort, 784 had offspring with major congenital heart defects (0.15%). Pregnancies with fetal major congenital heart defects were at significantly higher risk of preeclampsia (RR 1.74, 95% CI 1.27-1.34), low birth weight < 2500 g (RR 4.77, 95% CI 3.83-5.88), very preterm birth < 34⁺⁰ weeks of gestation (RR 5.51, 95% CI 3.86-7.35) and preterm birth < 37⁺⁰ weeks of gestation (RR 3.80, 95% CI 3.10-4.61). No significant association was found with placental abruption (RR 1.80, 95% CI 0.64-3.88). Adverse obstetric outcomes for subtypes of major congenital heart defects will be presented at the congress.

Conclusion

Pregnancies with major fetal congenital heart defects are at significantly higher risk of adverse obstetric outcomes, which complicates the postnatal interventions and infant outcomes. Thus, the identification of high-risk individuals and prophylactic initiatives are needed.