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Impact of diagnosis of congenital heart defects during the third trimester

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Objective

Limited data exists regarding the potential role of fetal heart evaluation in the third trimester of pregnancy and its impact on pregnancy and neonatal outcomes. To analyse the profile of congenital heart defects (CHD) diagnosed during the third trimester of pregnancy and its impact on pregnancy and neonatal outcomes.

Methods

This retrospective study was carried out from January 2016 to June 2022. Consecutive fetuses diagnosed with CHD for the first time during the third trimester (> 28 weeks) were included. Indication for referral, gestational age at first diagnosis, maternal and fetal risk factors, cardiac diagnoses and the type of CHD (simple or complex) were included. Outcome variables analysed were pregnancy and neonatal outcomes, type of neonatal care and neonatal survival data.

Results

A total of 424 fetuses (41% of the total CHD) were diagnosed with CHD during third trimester during the study period. The mean maternal age was 27.7 ± 4.6 years; mean gestational age at diagnosis was 33.3 ± 3.1 weeks. Most common indication for referral was suspected CHD (88.7%). Associated extracardiac anomalies were noted in 13.7% cases. 273 fetuses (64.4%) had simple CHDs; rest 151 (35.6%) were categorized as complex. Pregnancy outcomes included live-births in 389 fetuses (91.7%), non-continued pregnancies (n=23; 5.4%) and lost to follow-up (n=12; 2.8%). Of the live born babies, 280 (66%) babies received cardiac care, including neonatal cardiac procedures in 149 (53%) babies. Other neonatal outcomes included comfort care in 22 (5.2%) and normalization of prenatal findings in 87(20.5%). Neonatal survival was impacted by the type of the CHD (simple 86.2% vs complex 69.6%, $p<0.001$) and nature of neonatal care (cardiac care 77.4% vs comfort care 42.9%, $p<0.001$).

Conclusion

Fetal heart evaluation during the third trimester leads to diagnosis of a considerable proportion of CHDs in low-resource settings and this can have a significant impact on pregnancy and neonatal outcomes. Diagnosis of critical CHDs prior to delivery enables parental counselling and planned peri-partum care leading to improved neonatal cardiac outcomes.