

Obstetric management and time to first intervention in cases of fetal congenital heart disease delivered in a tertiary centre

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Introduction

Following prenatal diagnosis of congenital heart disease (CHD), delivery is arranged at our tertiary cardiac centre if early intervention is anticipated. This often necessitates planned induction of labour, which is associated with an increased rate of instrumental delivery or emergency Caesarean section (CS).

Aim

To determine the timing of neonatal intervention in babies with antenatally diagnosed CHD delivered in our centre and the impact on obstetric management.

Methods

Between 1st Jan 2008 and 31st December 2009, 205 women delivered 206 babies with prenatally diagnosed CHD at our tertiary centre. Data were obtained by retrospective review of fetal, paediatric and midwifery databases.

Results

98 women (48%) lived > 24km from our center. Of 107 patients living within 24km, 21 (19.6%) were already booked for delivery at our hospital regardless of fetal CHD. 10/205 (4.9%) delivered at our centre following parental or local hospital request.

119 babies (58%) needed catheter or surgical intervention during their initial postnatal stay: 31% within 48 hours and 42.9% within 72 hours. Median time to first intervention was 4 days (IQR2-8). Babies with hypoplastic left heart (median 3, IQR2-6.5), transposition of the great arteries (median 1, IQR 0-5) and arrhythmia (median 0.5, IQR 0-1) had significantly earlier time to first intervention (median 4-11days; $p=0.001$). Of other conditions 11/27 (40.7%) with Tetralogy of Fallot required intervention during their hospital stay, 5 (18.5%) within 72 hours. All 29 with coarctation required intervention; 2 (6.9%) within 72 hours. 12/14 (85.7%) with pulmonary atresia required intervention; 1 (7.1%) within 72 hours. 28/205 babies (14%) died within 30 days.

There was no difference in emergency CS rate following spontaneous labour (39%) compared to following induction of labour (42%) ($p=0.74$) or between patients living within 24km of the hospital (51%) compared to those living further away (46%) ($p=0.75$).

Conclusion

Duct dependent lesions require early intervention and delivery in or near a tertiary centre is recommended. However, this is not necessary in all major forms of CHD. Further studies are needed to accurately identify cases requiring early intervention. There is no significant difference in the obstetric outcome by delivering mothers at the tertiary unit.