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Congenital diaphragmatic hernia: Outcome and follow up at CERPO

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Objective

Determine perinatal outcome and one year follow up of fetuses with prenatal diagnosis of congenital diaphragmatic hernia (CDH) at CERPO from 2003 until 2018.

Methods

CERPO's, Neonatal and surgical paediatric unit database were reviewed to identify cases of CDH, over a 15-year period (January 2003– March 2018).

Results

A total of 99 cases of CDH were diagnosed prenatally. Mean gestational age at diagnosis was 26 weeks (range 12–41 weeks). 12 out of 99 cases (12. 1%) had genetic abnormalities, in all of them, other anomalies besides CDH were identified. There were 3 stillbirths (3% of ongoing pregnancies), in 2 of them trisomy 18 was diagnosed. 96 fetuses were live born, 45 out of 96 (46, 9%) did not reach surgery and the rest of 51 (53, 1%) underwent surgery. Survival rate post surgery was 90, 2%, 1 (2, 2%) died during the first year post surgery, 43 (93, 5%) were alive at 1 year of follow up, and 2 (4, 4%) are less than 1 year old. Lung-to-head ratio (LHR) and observed/expected lung-to-head ratio (O/E LHR) had a significant prediction on survival. 14/96 (14, 5%) neonates were connected to extracorporeal membrane oxygenation (ECMO), but we could not find a correlation between LHR and the need of ECMO (mean 1. 23, range 0. 3 – 2. 13). 11/14 (78. 6%) ECMO-user newborns were alive at 1-year. Overall survival at 1 year for all fetuses with prenatal diagnosis of CDH was 43/99 (43, 4%) and for live born was 43/96 (44, 8%).

Conclusion

Abnormal karyotype was more frequent when CDH was associated with other fetal abnormalities. LHR and O/E LHR had a significant correlation with survival, but LHR did not correlate to the postnatal need of ECMO. Overall survival rate for fetuses with prenatal diagnosis of CDH was 43%, this low survival could be explained partially by the fact that abortion is not legal in Chile and therefore there is not selection of cases.