EXAMINING THE HIDDEN MORTALITY OF CONGENITAL DIAPHRAGMATIC HERNIA

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Background and aims: Congenital diaphragmatic hernia (CDH) poses significant medical, social and economic challenges. Our objective was to examine the impact of antenatal and perinatal management on fetal and maternal outcomes in pregnancies complicated by fetal CDH.

Methods: Analysis of all pregnancies with antenatal or postnatal diagnosis of CDH in Ontario, (~145,000 deliveries annually) between 2005 and 2009. Data were obtained from all tertiary care fetal medicine units and pediatric surgical centres in the Ontario. Maternal characteristics, antenatal information, severity of defect, surgical management and newborn outcomes were studied.

Results: During the 5 year study period, 109 cases of CDH were identified by antenatal ultrasound at a mean of 22.2 ± 7.2 weeks gestation, only 2 cases were undiagnosed antenatally. One or more significant associated anomalies were detected in 19% of fetuses, 33% being cardiovascular. Seventy eight pregnancies continued, 90% had L sided CDH and were delivered at a mean gestational age of 37.6 ± 2.5 weeks, mean birth weight 3.1 ± 0.6 kg. Preterm delivery occurred in 17% and 14% of infants were low birth weight. Estimations of lung head ratio were available for 30 cases and were significantly greater for infants who survived, 1.55 ± 0.5 , compared to 1.17 ± 0.25 for non-survivors, $p=0.05$. Mean NICU stay was 37 days, with 73% of admitted infants surviving, representing 52% of the original antenatal cohort.

Conclusions: Greater understanding of the true prevalence of CDH and the factors that contribute to mortality, may identify interventions including antenatal surgery, that could be introduced to improve survival.