



Congenital diaphragmatic hernia – what can we learn from a single center with frequent prenatal follow up

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Objective

To evaluate the accuracy of prenatal parameters in order to predict neonatal outcome in isolated congenital diaphragmatic hernia (CDH) by a single center with recurrent prenatal evaluations.

Methods

Retrospective study of all cases of CDH evaluated prenatally and treated postnatally in a single tertiary center between 2008-2017. In all cases, evaluation included either LHR measurement, O/E LHR. MRI was additionally used in the last 5 years for prenatal evaluation.

Results

77 fetuses evaluated prenatally, 17 (22%) decided to have TOP after counseling and one fetal demise occurred. 59 neonates with prenatal evaluation were delivered and among them, 50 had isolated CDH. Median number prenatal evaluations and lung measurements/fetus was 4 (range 2-9). Perinatal survival was 76%. O/E LHR was significantly lower in cases with perinatal death compared to survivors ($p=0.01$). Prenatal evaluation of lung growth was significantly related to survival (Mild-87%, Moderate-62%, Severe-14%, $p<0.001$). Prenatal evaluation by O/E LHR was not significantly associated to treatment by ECMO. In cases with multiple evaluations, the minimal O/E LHR was most accurate to predict survival. MRI was used as an additive tool for evaluation in 86% of cases (altered severity of disease in 6/35 cases) and its main benefit was corrected diagnosis of "liver up" cases compared to prenatal US.

Conclusion

O/E LHR is correctly associated to perinatal survival. In cases with multiple evaluations the minimal O/E LHR is the most accurate. Prenatal MRI has an advantage in correctly identifying patients with intra-thoracic liver with left CDH.