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Survival outcomes according to fetal lung size in congenital diaphragmatic hernia: True mortality in Latin America

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Objective

To evaluate neonatal survival according to lung size in fetuses with congenital diaphragmatic hernia (CDH) managed expectantly during pregnancy in countries where termination of pregnancy is not legally allowed.

Methods

Prospective multicentre study performed in five Latin American centres including pregnancies complicated with isolated left-sided CDH. Fetal lung size was evaluated by ultrasound measurement of the observed/expected lung-to-head ratio (O/E LHR), and its potential to predict the risk of neonatal survival (up to 28 days after birth) was assessed by multiple logistic regression and decision tree analysis.

Results

Between January 2012 and December 2017, 104 fetuses with isolated left-sided CDH were evaluated. Overall survival rate was 45. 2% (47/104). Decision tree analysis allowed discrimination of three subgroups with different prognosis: Fetuses with an O/E LHR<35%, showed the worst prognosis (5% survival), those with an O/E LHR between 35% to 50%, showed a moderately good prognosis (50% survival), and those with an O/E LHR >50%) showed a good prognosis (83. 3% survival).

Conclusion

Neonatal mortality in CDH fetuses is higher in Latin American countries. Severe pulmonary hypoplasia in such centres should be defined by a lung to head ratio below 35%, since this subgroup shows an overall survival rate of 11%.