

Congenital diaphragmatic hernia treated by fetal endoscopic tracheal occlusion

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Objective

This study was performed to evaluate the effects of FETO on improving survival of infants with severe congenital diaphragmatic hernia (CDH). The primary outcomes were infant survival to discharge from a neonatal intensive care unit (NICU) and survival at 6 months of age.

Methods

In this retrospective cohort study between January/2016 and November/2019, fetuses with CDH, normal karyotype, and lung head ratio (LHR) < 1 were selected in a single national referral center for fetal surgery in São Paulo, Brazil. FETO occurred between 26 and 29 weeks of gestation.

Results

Forty-six woman carrying singleton fetuses with severe congenital diaphragmatic hernia were submitted to prenatal intervention with FETO and the chance of survival of infants to discharge from the NICU and at 6 months of age was the same, 38%. The LHR observed-expected increased in 25% after FETO in neonates who survive to discharge. Spontaneous intrauterine deaths occurred in 4 restricted fetuses and were not related to FETO procedure. Considering the alive neonates, the incidence of preterm birth < 37 weeks was 52% (22/42) and 26% (11/42) of pregnant women had preterm rupture of membrane < 34 weeks.

Conclusion

We observed higher rate of neonatal survival among fetuses with severe CDH submitted to FETO, especially in cases with better response to tracheal occlusion, compared with our previous outcomes in cases of severe CDH without FETO. Even with neonatal survival lower than expected in high income countries, the FETO procedure should be indicated and we believe that prospective studies may show better results based on improvement of neonatal intensive care assistance.

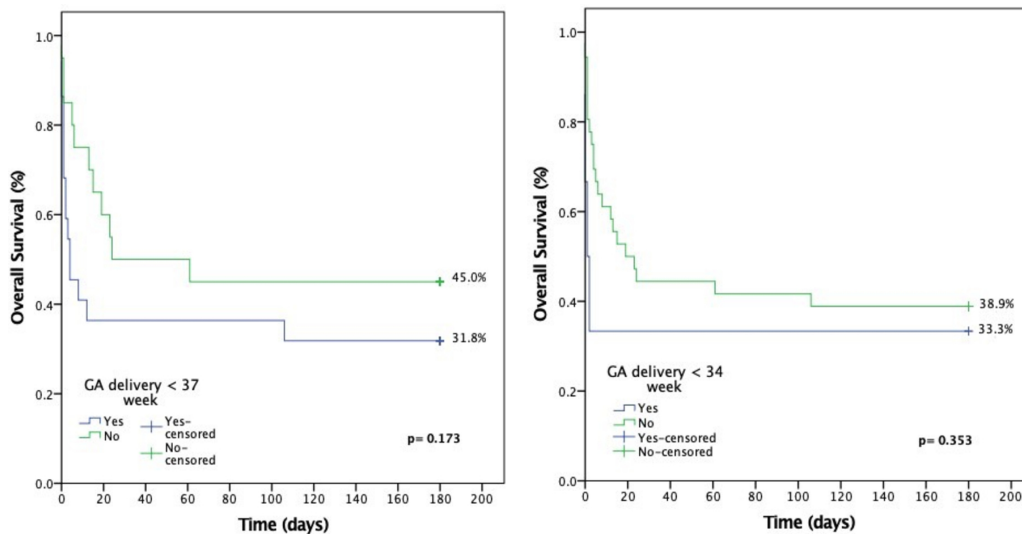


Figure 1. Overall Survival in preterm delivery.

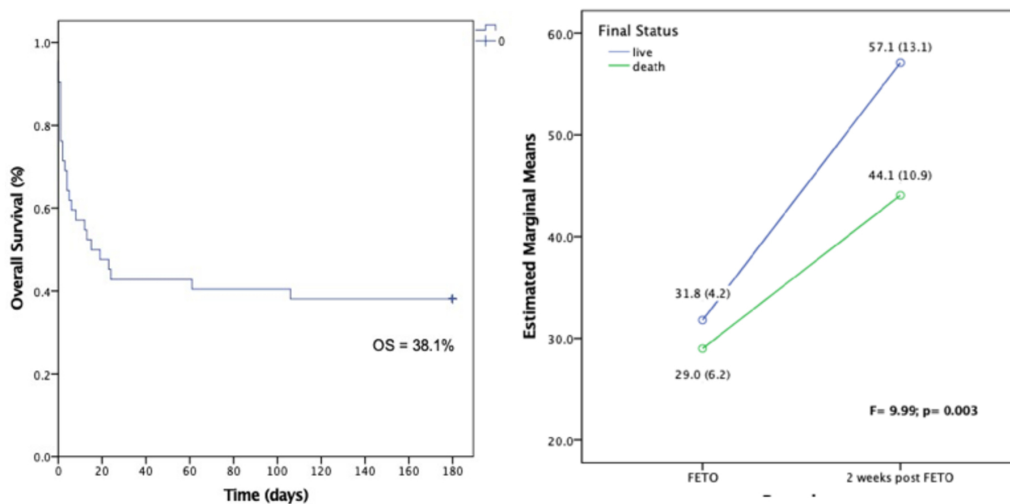


Figure 2. Overall Survival and the increase of LHR o/e 2 weeks after FETO. OS= overall survival.