



Fetal surgery by full laser ablation of the feeding artery for cystic lung lesions with systemic arterial blood supply

Cruz-Martínez R, Martínez Rodríguez M, Bermúdez-Rojas M, Magaña-Abarca C, Gámez-Varela A, Rojas-Macedo A, Alcocer-Alcocer M

Department of Fetal Medicine and Surgery, Children and Women's Specialty Hospital of Queretaro, Querétaro, Mexico

Objective

To assess the utility of fetal laser surgery in fetuses affected by large cystic lung lesions with systemic arterial blood supply (hybrid lung lesions) at risk of perinatal death.

Methods

A cohort of consecutive fetuses with large hybrid lung lesions associated with hydrops and/or pleural effusion with severe lung compression was selected for percutaneous ultrasound-guided full laser ablation of the feeding artery (FLAFA) at less than 32 weeks of gestation in a single tertiary referenced center at Queretaro, Mexico. The primary outcome was survival and need for postnatal surgery.

Results

FLAFA was successfully performed in 5 fetuses with large hybrid lung lesions at a median gestational age of 24.9 (range, 24.4-31.7) weeks. After fetal intervention, expanding of both lungs and reduction of fetal fluid effusions were observed. All cases were born alive at term at a median gestational age of 39.6 (range, 38.0–39.7) weeks without respiratory morbidity or need for oxygen support resulting in perinatal survival of 100%. During fetal follow-up, three cases (60%) showed a progressive regression of the entire lung mass and did not require postnatal surgery, while in 2 cases (40%), a progressive decrement in size of the mass was observed but a cystic portion of the lung mass did not regress requiring postnatal lobectomy.

Conclusion

This report shows that for fetuses with large hybrid lung lesions at risk of perinatal death, fetal surgery with FLAFA is feasible and could be of benefit in improving survival and decreasing the need for postnatal surgery.