

Fetal Surgery in Nicaragua: Experience of Systemic Feeding Vessel Ablation in Cystic Lung Masses (Hybrid Lesions).

Authors:

Rizo Ulises¹, Pavón Gómez Néstor J.^{1 2}, Morales Amparo¹, Alfonso Yamile ¹, González Karen ¹ uMarenco María Fernanda³, Cruz-Martínez Rogelio ^{1 2 4}.

Affiliations:

¹ **Maternal-Fetal Medicine, Hospital Bertha Calderón Roque**

²**Fetal Surgeon – Head of the Maternal and Fetal Medicine Surgery Unit, Hospital Bertha Calderón Roque**

³ **Pediatric Surgery and Neonatal Laparoscopy, Department of Pediatrics, Hospital Fernando Vélez Paiz,**

Fetal Surgeon – Foundation Medicine Fetal

Objective:

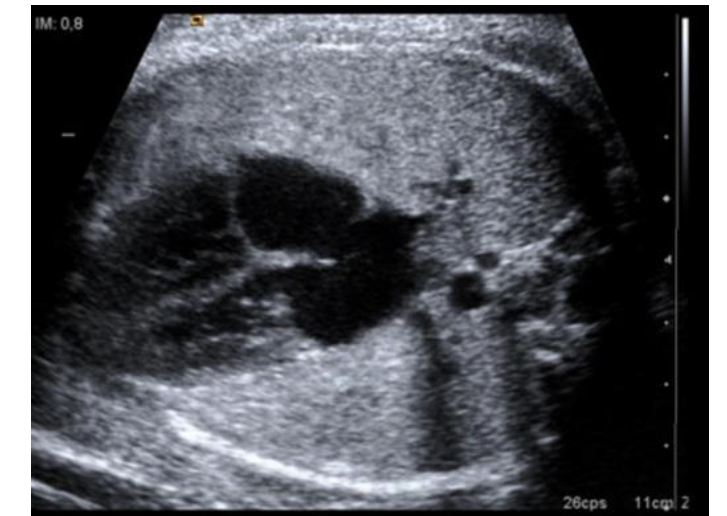
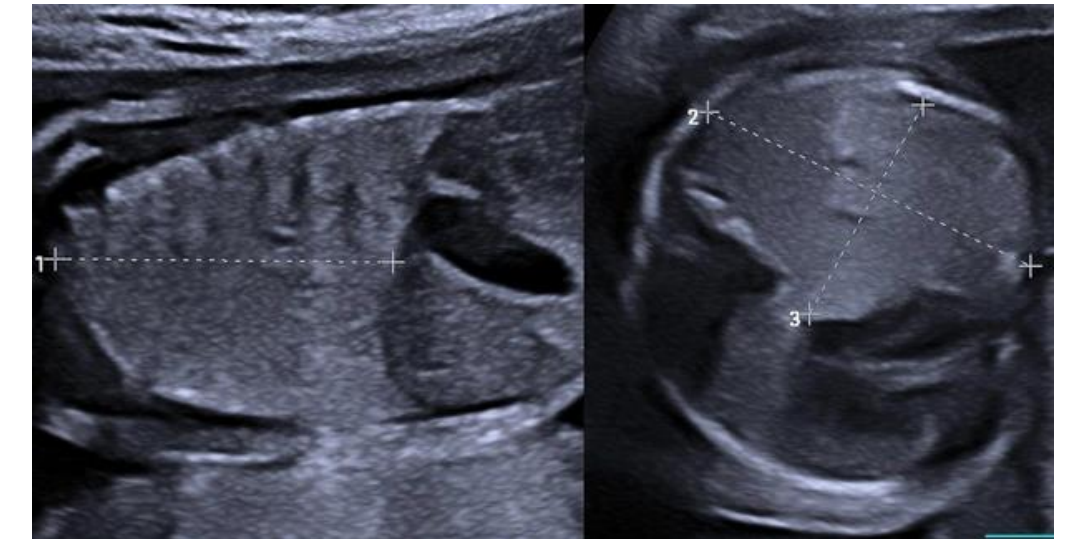
To analyze the clinical outcomes of fetal laser surgery in patients with hybrid lung masses treated with laser ablation of the systemic feeding artery in a national referenced fetal surgery Center in Nicaragua. (FLAFA)

Methods:

A retrospective cohort of fetuses with isolated hybrid lung lesions (cystic lung masses with systemic feeding artery) were selected for intrafetal laser in a national referenced fetal surgery Center in Nicaragua (Hospital Bertha Calderón Roque) between April 2021 and August 2024. Inclusion criteria for fetal intervention was large masses (CVR >1.5), mediastinal shift, pulmonary compression (O/E-LHR <30%), pleural effusion or hydrops. Laser ablation of the feeding vessel was performed under ultrasound and Doppler guidance using a 400-micron laser fiber. Primary outcomes were survival at discharge, and need for neonatal lung surgery.

Result

11 fetuses were recruited, all of them treated successfully with laser ablation of the feeding artery. Median gestational age at diagnosis and at fetal surgery was 25.3 weeks and 26.5 weeks, respectively. Median CVR was 3.92 (range: 1.6-4.4). Two cases (18%) required a second fetal intervention due to persistent vascular blood flow. Following fetal intervention, the CVR decreased from 3.2 cm (± 0.5) to 1.2 cm (± 0.8). Hydrops resolution occurred at an average 6.2 weeks (± 1.3). All cases delivered at term at a mean gestational age of 38.2 weeks (± 1.1), resulting in neonatal sur



Conclusions:

Fetal laser surgery significantly reduced the lung mass size, resolved hydrops, improved neonatal outcomes and decrease the need of neonatal surgery.