Case Report: Resection of an intra thoracic mass during EXIT procedure: Anesthetic management.

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Introduction: The ex-utero intrapartum therapy (EXIT) procedure is steadily becoming the management of choice for establishing the airway in term or near term fetuses who have life threatening head and neck masses. With advances in prenatal imaging techniques and diagnostic capabilities, indications for the EXIT procedure have extended beyond airway control to neonatal resuscitation on utero-placental bypass. We present the anesthetic management of a fetus with a large intrathoracic mass, which would have compromised neonatal resuscitation, resected during an EXIT procedure.

Case: A 37 year old, 110 kg G1P0 had a prenatal ultrasound performed at 36 weeks gestation for size-date discrepancy. A large fetal intra-thoracic mass with cardiac displacement, IVC compression and fetal ascites was noted. A prior ultrasound at 22 weeks was normal. The findings were confirmed by ultra fast fetal MRI which showed a solid, well-circumscribed 57 x 49 x 45 mm right sided chest mass causing bilateral lung compression and displacing the heart into the left chest. Due to concerns that the mass will compromise neonatal resuscitation, an EXIT procedure was performed at 37 weeks gestation. Under deep maternal general anesthesia with 2% MAC isoflurane, uterine relaxation was achieved and a stapled-hysterotomy performed. Once the fetal head was delivered, endotracheal intubation was accomplished but ventilation withheld until the chest was decompressed. Intravenous access was secured and the fetus continuously monitored with pulse oximetry and continuous fetal echocardiography. Supplemental fetal anesthesia was provided with intravenous fentanyl, atropine and pancuronium. A right thoracotomy was performed and the mass delivered out of the chest. Paracentesis of the massive ascites was also performed. With these maneuvers, adequate fetal ventilation was achieved and the child separated from the mother after 81 minutes of utero-placental bypass. Maternal anesthesia was reversed, oxytocin administered and the uterus closed without incident. The baby was transported to an adjacent operating room where his surgery was completed. Both mother and child are home and well at 3 months follow up.

Conclusion: Availability of a multidisciplinary team to perform an EXIT procedure provides a useful means of neonatal resuscitation for fetuses with marked anomalies that may compromise neonatal resuscitation.
Figure 1

References: