

# Cervical teratoma

Cervical **teratomas** are rare **germ cell tumors** affecting the fetus that are associated with significant morbidity and mortality due to an increased risk of airway obstruction at delivery. These tumors can commonly produce polyhydramnios that results from the fetus impaired ability to swallow amniotic fluid. Improved rates of prenatal diagnosis through comprehensive evaluations and imaging have dramatically impacted the perinatal management of infants with this condition.

The purpose of a is to present the outcome and technical details of the Ex Utero Intrapartum Treatment (EXIT) procedure performed in the management of the fetus with a giant cervical teratoma.

A retrospective review of the medical records of patients undergoing the EXIT procedure between September 1995 and September 2010 was performed.

Eighty-seven EXIT procedures were performed. In 20% of cases (17/87), the indication was giant cervical teratoma. There were 10 females and 7 males. Polyhydramnios was present in 82%. Median gestational age at EXIT was 35 weeks (range, 30-39 weeks). Median birth weight was 2.5 kg (range, 1.7-3.7 kg). Access to the airway under placental support was established in all cases via direct laryngoscopy/bronchoscopy in 8 patients (47%) and via surgical exploration (tracheostomy or retrograde intubation) in 9 patients (53%). The mortality rate under placental support was zero. Seven patients had the tumors resected immediately after the EXIT, 6 patients had the resection later, and 4 patients died before resection. The neonatal mortality rate was 23% (4/17 patients). Patients who died had severe pulmonary hypoplasia that resulted from the upward traction by the giant cervical mass on the airway and compression of the lungs against the thoracic apex.

We conclude that the EXIT procedure continues to be the optimal delivery strategy for patients with prenatally diagnosed giant cervical teratomas and potential airway obstruction at birth. A thorough evaluation of the prenatal images and an experienced multidisciplinary team are key factors for an effective approach to the obstructed fetal airway <sup>1)</sup>.

## Case reports

### 2016

A patient diagnosed with polyhydramnios whose fetus was discovered to have a giant cervical teratoma on imaging studies. The child underwent surgical resection after having the airway secured under the uteroplacental support as part of an ex utero intrapartum treatment procedure performed at 37 weeks. The following gross pathological and magnetic resonance images demonstrate this condition and its currently accepted treatment <sup>2)</sup>.

### 2012

A healthy 32-year-old woman, gravida 3, para 2, was referred at 25 weeks' gestation with a diagnosis of a fetal giant cervical teratoma. Ultrasound and magnetic resonance imaging (MRI) findings

suggested airway obstruction in the fetus. An EXIT procedure was attempted but did not result in survival of the baby, despite extensive preoperative planning and the best efforts of a multidisciplinary team.

Despite prenatal detection and diagnosis of airway compromise in a fetus with a giant neck teratoma, securing the fetal airway can be challenging. This is because massive teratomas can completely distort normal tissue and anatomy <sup>3)</sup>.

<sup>1)</sup>

Laje P, Johnson MP, Howell LJ, Bebbington MW, Hedrick HL, Flake AW, Adzick NS. Ex utero intrapartum treatment in the management of giant cervical teratomas. *J Pediatr Surg*. 2012 Jun;47(6):1208-16. doi: 10.1016/j.jpedsurg.2012.03.027. Review. PubMed PMID: 22703795.

<sup>2)</sup>

Thawani JP, Randazzo MJ, Singh N, Pisapia JM, Abdullah KG, Storm PB. Management of Giant Cervical Teratoma with Intracranial Extension Diagnosed in Utero. *J Neurol Surg Rep*. 2016 Jul;77(3):e118-e120. PubMed PMID: 27468407.

<sup>3)</sup>

Johnson N, Medd L, Shah PS, Shannon P, Campisi P, Windrim R, Ryan G. A challenging delivery by EXIT procedure of a fetus with a giant cervical teratoma. *J Obstet Gynaecol Can*. 2009 Mar;31(3):267-71. Erratum in: *J Obstet Gynaecol Can*. 2009 Jun;31(6):484. Medd, Laura [added]; Ryan, Greg [added]. PubMed PMID: 19416574.

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