Multidisciplinary Management of a Large Fetal Cervical Teratoma

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BACKGROUND

- Teratomas are the most common congenital neoplasms, accounting for 25–35% of all neonatal tumours with an incidence of 1 in 20,000–40,000 live births (1).
- Of these, cervical teratomas are reported as around 6% of all congenital teratomas (2).
- The prognosis of cervical teratomas has generally been poor. This depends mainly on the size of the lesion and the involvement of other structures.
- Most neonatal deaths in cases of neck tumours are due to airway obstruction.
- There is an increased risk of polyhydramnios due to oesophageal obstruction, increasing risks of prematurity labour.

HISTORY

- We report a case of a cervical neck teratoma managed with an EXIT procedure.
- The woman had suffered a neonatal death in her previous pregnancy with an abruptio at 37+6 weeks gestation.
- She was booked for Consultant led care at Hull Royal Infirmary, Hull, UK.
- We highlight effective joint care between our nearest tertiary referral unit (Leeds) for fetal medicine, antenatal care and complex neonatal surgery.

SCAN FINDINGS

- At an anatomy ultrasound scan in the subsequent pregnancy, a large, left sided mixed cystic solid cervical mass measuring 29x36mm was noted. The mass extended to the tragus of the left ear, crossing the midline slightly but minimal tissue seen to the right of the neck.
- The mass displaced the carotid vessels and extended to the midline involving the thyroids. The mandible bone was noted to be intact. Appearances were consistent with a cervical teratoma.

- The patient was referred to the fetal medicine department at Leeds General Infirmary, Leeds, UK where she was seen at 24+1 weeks.
- Fetal biometry was within normal limits. Liquor volume was noted to be at the upper limits of normal.
- The neck mass was more cystic than previously but remained predominantly avascular, with one major ‘feeding’ vessel. The mass measured 58x54x49mm.
- The neck was not hyperextended and good views were achieved of the fetal mouth opening and closing. Doppler was also used to assess flow in and out of the nasopharynx during fetal breathing movements.
- There were normal appearances of the stomach.
- An MRI was performed which could not conclusively determine the nature of the mass, therefore management of both cervical teratomas and lymphangiomas were discussed in detail.
- The management discussion focused on an EXIT procedure, which was provisionally planned for 35–36 weeks gestation.
- The patient had weekly scans throughout the rest of the pregnancy. At 29 weeks it was noted that the amniotic fluid index was raised at 30 cm. She was given antenatal steroids at this time.
- An extensive plan was put into place should she go into labour before her planned delivery in Leeds, however as an EXIT procedure could not be performed, the patient was aware of the potentially adverse outcomes should an airway not be achieved.
- At 30 weeks, the mass measured 9x5x45mm with an Amniotic Fluid Index of 33cm. A date for her EXIT procedure for booked at 34+6 weeks.

OUTCOME AND SUMMARY

- The baby underwent surgery at three days of age after extensive planning meetings with all involved took place.
- A full simulated run-through of the procedure was undertaken.
- Immediately prior to the procedure, an amniocentesis was performed.
- A low transverse skin incision was used.
- The uterus was noted to have dehisced and then was extended. The total head and right arm were delivered.
- Atropine, fentanyl and mepacrine were administered.
- The fetal vocal cords were visualised, and after suctioning of secretions amniotic fluid, an uncomplicated endotracheal intubation was performed.
- After securing the airway, the baby was passed to the neonatal team for ongoing management.
- The mother made an uneventful recovery.

REFERENCES

4. S. Christopher Derderian, MD; Chief Editor: Hammon Lee, MD. Fetal Surgery for Neck Masses. Pediatric Surg Sep 2011