

Fetal Lingual Dermoid Cyst

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A case study of a fetal lingual dermoid cyst is presented. The cystic mass was seen protruding from the base of the tongue through the open fetal mouth. Teratomas, although usually benign, can result in a poor neonatal outcome if the respiratory tract is obstructed. The perinatal diagnosis of an oral mass will alert the obstetrician to the possible need to deliver at a tertiary-care center where a team of specialists can be available to aid in the establishment of the newborn's airway.

Key words: oral, dermoid cyst, teratoma, lingual, respiratory obstruction

A sonographer can often dramatically influence the course and outcome of a pregnancy by contributing to the diagnosis of a potentially life-threatening fetal anomaly. This forewarning allows the patient and her physician time to plan for the optimal delivery at a tertiary-care center prepared to treat a seriously ill newborn. These anomalies can range from the blatantly obvious to the more subtle, as in this case study of a lingual dermoid cyst.

Although histologically benign, a large oral dermoid cyst may obstruct the fetal respiratory tract. Fetuses with unsuspected oral masses can have a poor prognosis following birth due to hypoxia, acidosis, and anoxic brain injury sustained before an adequate airway can be established.¹ If forewarned, specialists can be present at the delivery to establish an airway through either intubation or tracheotomy.² Obviously, a thorough and accurate screening sonogram leading to the diagnosis of a potentially obstructive mass can profoundly affect the ultimate prognosis for these fetuses.

Case Presentation

A female patient was referred to our perinatology office following an abnormal screening sonogram in her obstetrician's office. Although the sonographer could not visualize an obvious abnormality, he noted that the fetus appeared to be "yawning" throughout the



FIG. 1. Longitudinal view of fetal head and abdomen. The arrow shows the cystic mass extending from the base of the tongue through the open mouth.

exam. By her last menses, the patient's gestational age was estimated at 19 weeks and 1 day.

A perinatal sonogram was performed with an Acuson Sequoia 512 (Acuson, Mountain View, CA) using sector and curved array transducers (3.5 to 5 MHz). Sonography demonstrated a 1.6 cm oral pharyngeal cyst extending from the base of the tongue and protruding through the open mouth (Figs. 1, 2). The mass was not seen to contain septations or solid components (Fig. 3). A normally filled fetal stomach was observed along with an appropriate amount of amniotic fluid. On subsequent sonograms, the cystic mass enlarged before stabilizing at 2.1 cm.

The fetus was delivered at 39 3/7 weeks by cesarean section due to a prolapsed umbilical cord. A 2 cm distal cystic lesion of the tongue was noted before an ear, nose, and throat surgeon and neonatologist successfully intubated the neonate. The tongue mass was surgically removed on day 2 with excellent results.

Pathology revealed a benign respiratory epithelial, squamous, and mucinous-lined cyst. Because of the 3 different tissue types, the lesion was suggestive of a lingual dermoid cyst.

Discussion

Teratomas are histologically diverse masses containing a variety of tissues foreign to the anatomic site in which they reside. Teratomas are a type of germ cell tumor composed of 1 or more representatives of all 3 embryonic germ cell layers: endoderm, mesoderm, and ectoderm.³ They are seen with equal frequency in both genders and in all races,⁴ without known genetic causes, recurrence risks, or predisposing factors.¹

Teratomas, the most common tumor in the neonate, are variable in both size and composition, ranging from solid to a completely cystic dermoid cyst.⁵ Only 5% of teratomas arise from the orofacial and neck region,⁴ occurring in 1 in 20,000 to 1 in 40,000 live births.⁶ Dermoid cysts of the tongue are even rarer, with only 15 cases reported. Dermoid cysts of the orofacial and neck region usually appear sonographically as unilocular anechoic or heterogeneous masses.⁷

Although teratomas are usually benign, the prognosis can vary widely depending on the size and location of the mass.⁵ Oral masses can potentially cause a respiratory obstruction at delivery,



FIG. 2. Longitudinal view of fetal face. The arrow shows the cystic mass extending from the base of the tongue through the open mouth.



FIG. 3. Coronal view of fetal face and body. The arrow shows the cystic mass extending from the base of the tongue through the open mouth.

necessitating the emergency establishment of an airway through either endotracheal intubation or tracheotomy.² In fact, the greatest cause of morbidity and mortality in these infants is due to hypoxia, acidosis, and anoxic brain injury incurred before an adequate airway can be achieved.¹

In this case study, a simple, unilocular cystic mass was seen protruding from the fetal mouth. The differential diagnosis included a salivary gland cyst, lymphatic cyst, thyroglossal duct cyst, sublingual cyst, and lingual lymphangioma, all of which could exhibit similar sonographic findings. Although it may not be possible to establish a definitive diagnosis based on the sonographic findings alone, forewarning the obstetrician with information about a potentially obstructive oral mass can prove invaluable to the fetus' prognosis.

Comments

Perinatal sonography revealed a large oral pharyngeal cyst extending from the base of the fetal tongue and protruding through the open mouth (Figs. 1, 2). The mass exhibited the sonographic signs of a simple cyst (Fig. 3). The differential diagnosis included several different oral cystic masses, all of which could exhibit similar sonographic features. Pathology, performed on the excised mass following delivery, confirmed the presence of 3 different tissue types, suggestive of a lingual dermoid cyst.

Following delivery, an adequate airway was achieved with the insertion of an endotracheal tube

around the mass. Surgery, performed on day 2, successfully removed the dermoid cyst, and the child is progressing well.

Because an attentive sonographer at a screening center became suspicious when the fetus appeared to be continuously yawning, the perinatal diagnosis of an oral mass, which could have potentially obstructed the respiratory tract, was confirmed. As a result of this diagnosis, a team of specialists was present at the delivery to assume care of this critically ill infant.

References

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