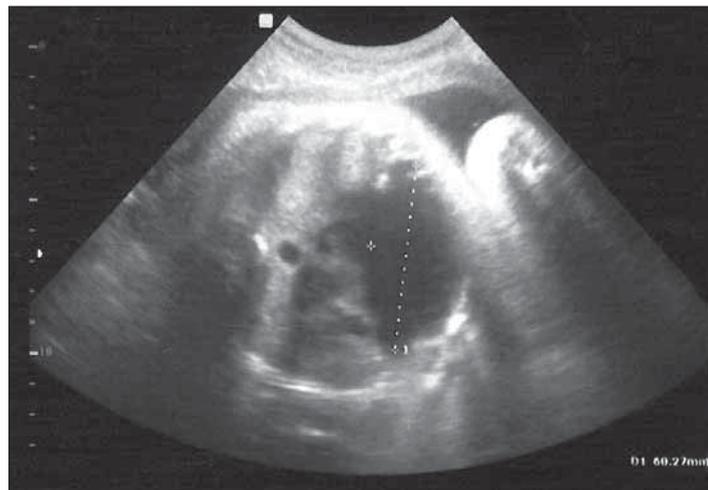
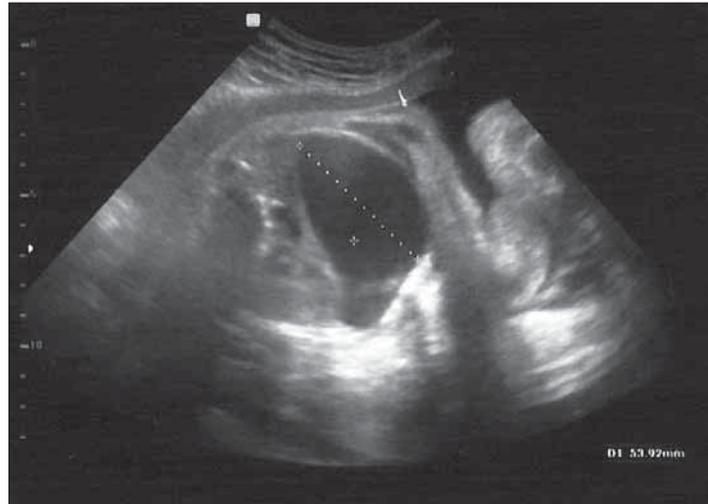


What is Your Diagnosis?



Answer

Thymus originates from the ventrolateral side of the third pharyngeal arch. It has two asymmetric lobes with a fibrous capsule and an isthmus connecting them. It is located in the midline beneath the sternum and located in the anterior – superior mediastinum (1).

Thymic cysts are rare and constitute 1-2% of all masses in the anterior mediastinum (2). Although congenital cysts are seen during childhood, both congenital and acquired cysts are found later in life. Congenital cysts are thought to be the remnants of thymolaryngeal channel (3). Ultrasonography plays an important role in the diagnosis of thymus originated cysts during the fetal life. These ultrasound diagnosed intrathoracic cysts might be in unilocular or multilocular morphology. Congenital cysts are unilocular and have a thin capsule with clear fluid inside them. Acquired cysts are more commonly seen in young adulthood; they are usually multilocular with thick capsule and cause pain secondary to inflammatory process. Thymic masses may cause pleurisy, fetal hydrops and polyhydramnios due to pressing on blood and lymphatic vessels and shifting the vital organs. Fetal mediastinal thymic cysts should be differentiated from other more common cystic pathologies such as cystic adenoid malformations. Especially macro cystic adenoid malformation (CAM type 1) has single or multiple cysts larger than 5mm and resembles congenital thymic cysts on ultrasound. Microcystic adenoid malformations resembles solid masses and do not commonly reminds thymic cysts. In the differential diagnosis congenital diaphragmatic herniations should also be considered and ultrasound evaluation of the diaphragm with any presence of abdominal organs such as stomach, liver and intestines should be sought. Other intrathoracic pathologies that should be kept in mind in the differential diagnosis of thymic cysts include bronchopulmonary sequestration, teratomas, dilatation of the proximal pouch in case of esophageal atresia, mediastinal meningomyelocele, meningocele, bronchogenic cysts, simple lung cysts, enteric or neuroenteric cysts, neuroblastoma, laryngeal atresia, congenital left ventricular aneurysm, pericardial cysts, pleural effusions and cystic hygroma (4). Magnetic resonance imaging is important in identifying thoracic masses and their relation to other vital organs and vessels without exposing the fetus to radiation (5). The prognosis of fetal mediastinal thymic cysts is usually good

if they do not cause fetal hydrops. Half of the thymic cysts will be asymptomatic if they were not diagnosed during the fetal life. Especially thymic cysts in the neck area may cause cough, wheezing, fever and frequent upper respiratory infections during the newborn and childhood periods. Thymic cysts diagnosed during the fetal life can be surgically excised for treatment and definitive diagnosis. Before surgical excision only one out of seven cases are diagnosed correctly. Surgical excision cures all the congenital cysts and recurrence is not seen. On the other hand acquired thymic cysts diagnosed during adulthood recur in 2% of the cases due to the underlying pathological process (7).

In the present case a large intrathoracic cyst is seen in figure 1 and 2. The left lung is seen behind the cyst in figure 3 with displacement of the heart to the right half of the thorax. Fetal magnetic resonance imaging raised a suspicion of thymic cyst and CAM. The cyst was excised the day after delivery and pathology confirmed thymic cyst

Emek Doğer, Eray Çalışkan,
Department of Obstetrics and Gynecology, Faculty of Medicine,
Kocaeli University,

References

1. Zalel Y, Gamzu R, Mashiach S, Achiron R. The development of the fetal thymus: an in utero sonographic evaluation. *Prenat Diagn.* 2002; 22: 114-7.
2. McCafferty MH, Bahnson HT. Thymic cyst extending into the pericardium: A case report and review of thymic cysts. *Ann Thorac Surg* 1981; 33: 503.
3. Choi YW, McAdams HP, Jeon SC, et al. Idiopathic multilocular thymic cyst: CT features with clinical and histopathologic correlation. *AJR* 2001; 177: 881-5.
4. Şen C, Meizner I. Fetal Tümörler. *Perinatoloji Dergisi* 2002; 10: 59-66.
5. Jauniaux E, Hertzkovitz R, Hall JM. First-trimester prenatal diagnosis of a thoracic cystic lesion associated with fetal skin edema. *Ultrasound Obstet Gynecol* 2000; 15: 74-7.
6. Hendrickson M, Azarow K, Ein S, Shandling B, Thorner P, Daneman A. Congenital thymic cysts in children--mostly misdiagnosed. *J Pediatr Surg.* 1998; 33: 821-5.
7. Çelik B, Demir H, Çelik HK. Atipik doğuştan timus kisti: Olgu sunumu. *Türk Göğüs Kalp Damar Cer Derg* 2008; 16: 195-7.