Bronchogenic cyst: Two cases of prenatal diagnosis and Postnatal Findings
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Case 1
A 31 year-old nulliparous pregnant woman had routine antenatal care at our institution from the beginning of pregnancy. Midtrimester ultrasound(US) showed no specific findings in the ultrasound. However, at 32 weeks of gestation, about 1.0x1.0x1.1cm sized cystic mass was noted in fetal thorax, posterior to right atrium. There was no compression of surrounding structures and color doppler was negative. Fetal MRI 33 weeks of gestation was consistent with bronchogenic cyst. At birth, the child had no respiratory distress and chest US showed cystic lesion in right lower paraspinal area suggestive of bronchogenic cyst. The child had cyst resection after 6 month of birth. The dominant cyst had ciliated respiratory epithelium with cartilage, indicative of bronchogenic cyst. The child had a good development after the surgery.

Fig 1. US findings at 32 weeks of gestation
A. Axial plane shows cystic mass in fetal thorax posterior to right atrium. B. Color Doppler was negative inside the mass.

Fig 2. Fetal MRI at 33 weeks of gestation showing A. high signal intensity cystic mass in right fetal thorax in T2WI. B. Sagittal plane shows that the mass is located posterior to fetal right heart.

Fig 3. Postnatal chest US showed 1.6x1.6cm sized cystic lesion without color flow in right lower paraspinal area.

Case 2
A 36 year-old nulliparous pregnant woman was referred for at 32 weeks’ gestation because of suspected diaphragmatic hernia. Level II US revealed uniloculated, 1.5x1.6cm sized cystic mass located adjacent to trachea and right main bronchus(Fig4). Fetal MRI at 33 weeks of gestation showed 1.62x1.84cm sized unilocular cystic lesion in the right upper mediastinal area suggestive of bronchogenic cyst(Fig.4). The child had no respiratory distress at birth and postnatal chest CT (Fig.5) showed a cystic mass in right superior mediastinum. The child had cyst resection at 18 months of birth. The pathology was confirmed as bronchogenic cyst and the child had a good development after surgery.

Fig 4. A. US at 32 weeks of gestation showed 1.5x1.6cm sized cystic mass in right mediastinum adjacent to trachea. B. Fetal MRI at 33 weeks of gestation showed well demarcated unilocular cystic lesion in right upper mediastinal area. No organ compressions were noted.

Fig 5. Postnatal chest CT showed 2.6x2.2x1.7cm sized demarcated thin walled cystic mass in right superior mediastinum consistent with bronchogenic cyst.

Conclusions
Both cases of bronchogenic cyst were diagnosed in the third trimester of pregnancy. Suspicion of the bronchogenic cyst is not difficult through routine antenatal ultrasound. However, additional fetal MRI can be helpful in differential diagnosis of bronchogenic cyst with other congenital lung disease and find further information on location and characteristics of the cyst. Clinical course of bronchogenic cyst was benign and routine antenatal care and postnatal treatment was possible in our cases. However, prenatal diagnosis of bronchogenic cyst can be helpful in planning delivery because there can be risk of respiratory distress in the neonate after birth.