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Prenatal diagnosis of a fetal chest cystic lymphangioma using ultrasonography and MRI

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Fetal lymphangiomas are uncommon, hamartomatous congenital malformations of the lymphatic system that involve the skin and subcutaneous tissues. About 70–80% of the tumors occur in the neck (cystic hygromas). About 20% of the tumors occur in the axillary region and rare locations include the mediastinum, retroperitoneal area, abdominal viscera, bones, pelvis and chest wall. There is a high prevalence of associated chromosomal abnormalities.

We present an unusual case of fetal lymphangioma diagnosed prenatally in a second trimester pregnant woman. A 25-year-old prima gravida was referred at 28 weeks gestation because of bilateral choroidal plexus cysts detected by routine 22-weeks scan performed at a private clinic. Ultrasound examination, performed in our hospital at 28 weeks gestation showed a multilocular, large cystic mass (10 × 22 × 29 mm) on the fetal left side in the area of the lower chest and upper abdomen without color flow imaging. The choroids plexus cysts were revolved, amniotic fluid amount was normal and no other structural abnormalities found. Follow up sonography at 30 weeks gestation revealed normal fetal growth and enlargement of the cystic mass (about 13 × 33 × 43 mm). The patient’s family history and previous medical history were unremarkable.

After counseling, the parents refused to proceed an amniocentesis and opted to continue the pregnancy. Magnetic resonance imaging was used to evaluate the extent ant the tissue characteristics of the lesions. The incidence of cystic lymphangioma is estimated to be 1:6000 pregnancies but it is a relatively common anomaly in miscarried fetuses with a frequency of 1:875. The survival rate progressively improves with normal karyotype, a typical location and resolution of the lesions.

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MRI diagnostic of a giant acardiac fetus


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A patient was submitted to a routine prenatal ultrasound in the 33rd week of her pregnancy which revealed a normal fetus and a large intra-amniotic mass. The initial diagnosis was an acardiac twin pregnancy. The pump twin had an estimated weight of 1800 g and an abnormal Doppler, with evident redistribution of blood flow (brain sparing effect). A prenatal MRI scan permitted a clear view of the giant intra-uterine amorphous ecogenic mass. After a cycle of corticosteroids for fetal lung maturation, the patient was submitted to elective cesarean section resulting in the delivery of a normal 1837 g neonate and a 3682 g mass confirmed as an acardiac twin by the pathology exam.

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Prenatal findings and differential diagnosis of Scimitar syndrome and pulmonary sequestration

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Objectives: Scimitar syndrome and pulmonary sequestration have overlapping features. Pulmonary sequestration has been reported prenatally, but prospective antenatal diagnosis of Scimitar syndrome has not. We describe the antenatal ultrasound findings in these conditions that allowed the correct prenatal identification and their differentiation.

Methods: Retrospective analysis of prenatal and postnatal data of Scimitar syndrome or pulmonary sequestration diagnosed prenatally since 1995.

Results: Right-sided ipsilateral mediastinal shift (relative to the affected lung) was the indication for referral in all three cases of Scimitar syndrome. The mediastinal shift was contralateral in all three cases of pulmonary sequestration. Lung echogenicity was focally increased in sequestration and normal in Scimitar syndrome. Hyperechogenic lung was the indication for referral in pulmonary sequestration, with two requiring prenatal insertion of a thoracocentesis shunt for significant pleural effusion. See table for summary of vascular anatomy findings.

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<td>Abnormal venous supply from descending aorta (n)</td>
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*One case under investigation.

Conclusion: The differentiating ultrasound features between Scimitar syndrome and pulmonary sequestration are the laterality of mediastinal shift and the vascular anatomy. Pulmonary sequestration is easier to detect prenatally, due to the echogenic lung mass. Prenatal diagnosis of Scimitar syndrome is more challenging, due to normal lung echogenicity and the subtlety of vascular findings. Careful search for abnormal venous drainage in cases of isolated mediastinal shift should be undertaken if the diagnosis of Scimitar syndrome is to be made prenatally.

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Sex specific antenatal reference growth charts for uncomplicated singleton pregnancies at 15–40 weeks of gestation

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Objectives: Female infants, on average, weigh less than male infants at all gestational ages. The purpose of this study was to compare female and male fetuses in terms of intrauterine ultrasound growth measurements and to develop gestational age-related charts based on a computerized perinatal database.

Design: Retrospective study of second and third trimester unselected pregnant women, who had a normal scan at 10–14 weeks.

Subjects and methods: Data analysis was performed using measurements obtained from a mixed race population of 4234 women, undergoing 5198 ultrasound examinations. The scans were performed by 4 trained sonographers, according to a standardised protocol. Routine measurements included biparietal diameter (BPD), head circumference (HC), abdominal circumference (AC) and femur length (FL). The main end-points were sex- and race-specific differences in fetal biometry.

Results: The base-line demographic characteristics and risk factors were comparable in female and male fetuses. Significant differences in fetal BPD, HC and AC, but not FL were seen between male and female fetuses. Centile charts for each of these variables were constructed for both male and female fetuses.

Conclusions: This study suggests that small but consistent sex related differences in prenatal BPD, HC and AC measurements