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Antenatal diagnosis of cystic masses in the fetal lung: the natural history and outcomes - a single institution's experience

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Objective

Congenital cystic adenomatoid malformation (CCAM) and bronchopulmonary sequestration of the lung are the most common lung lesions to be identified by fetal ultrasound imaging. This study aims to look at the natural history and outcomes of these fetal cystic lung masses detected in our centre.

Methods

This study was a retrospective observational case review of cases of fetal cystic lung masses of CCAM and bronchopulmonary sequestration diagnosed antenatally in KK Women’s and Children’s Hospital from September 2006 to February 2013 looking at the pregnancy, fetal and paediatric outcomes and natural history of antenatally diagnosed fetal cystic lung masses based on our institution’s management protocol. A secondary objective was to assess if a method of using the mass: chest ratio to monitor progression of the mass antenatally would be useful in the prediction of outcomes.

Results

Fetal CCAM and bronchopulmonary sequestration masses typically plateaued in size between 26 and 30 weeks gestation. Antenatal ultrasound features of initial mass size and mass: chest ratio, as well as largest mass size and mass: chest ratio were not significantly associated with respiratory morbidity at birth. There was also no significant relationship between trend of lung mass size over gestation and respiratory morbidity at birth (p=0. 2093). Two of three fetuses with prenatal ultrasonographic regression of the cystic lung lesion had persistent cystic lung mass on postnatal CT chest imaging.

Conclusion

The natural history of fetal cystic lung lesions generally follows a benign course with excellent antenatal, neonatal and paediatric outcomes. Lack of correlation between antenatal involution of cystic lung lesions and postnatal imaging was observed, highlighting the need for postnatal imaging.