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Answers to Medical Quiz

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A.1. The CT scan showed air filled cystic lesions of different sizes in the left lung.

A.2. Cystic adenomatoid malformation, pulmonary sequestration and congenital lobar emphysema.

DISCUSSION

Cystic adenomatoid malformation (CCAM) is a developmental abnormality of the lung because of focal arrest in fetal lung due to variety of insults before the eight weeks of gestation. CCAM represents approximately 25% of all congenital lung lesions. Ch'in and Tang first described cystic adenomatoid malformation (CCAM) in 1949[1]. This lesion occurs more often in males (1.8:1), and it is primarily unilateral, but may occur bilaterally[2].

Classification of CCAM includes three types: Type I, which is the most common type and accounts for 50% - 70% of cases. This lesion is composed of single or multiple large cysts (2 to 10 cm). Type II, accounts for 18% - 40% of cases, and composed of small cysts of less than 2 cm. Type III, accounts for 10% of cases, and composed of large solid lesions[3].

Presentation of CCAM varies and may include cystic lesions on routine prenatal ultrasound examinations. Some CCAM lesions present only at birth with respiratory distress and could be life threatening when it is associated with pneumothorax[4].

The diagnosis of CCAM could be achieved through routine prenatal US. Some CCAM lesions present only at birth and could be confirmed by an abnormal chest radiograph or more definitive CT scan[5]. The differential diagnosis of this condition include diaphragmatic hernia, pulmonary sequestration, bronchogenic cysts, and congenital lobar emphysema[6,7].

Treatment depends on the size and mode of presentation. Early identification of patients with CCAM is important as it allows for potential fetal interventions, and birth planning at neonatal intensive care unit. Fetal intervention, in terms of placement of a thoraco-amniotic shunt under ultrasound guidance, is indicated when fetal hydrops is present. Those patients with antenatal diagnosed CCAM on ultrasound, but have no symptoms at birth, the treatment is controversial whether to operate or to observe? Patients with symptomatic lesions or large cysts require surgical removal due to the potential risk of secondary infection, and the possible progression to malignancy[5-7].

The Overall prognosis depends greatly upon the pressure effect of the cysts on the lung, unilateral or bilateral involvement and availability of neonatal care unit[7].

CONCLUSION

Cystic adenomatoid malformation is an uncommon developmental lung anomaly. These lesions are usually diagnosed on routine prenatal US examinations. Some cases present only at birth with respiratory distress symptoms; the diagnosis is confirmed by an abnormal chest radiograph or a CT scan. Surgical intervention is indicated in symptomatic, complicated and large size cysts.

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