Antenatal diagnosis of congenital pulmonary airway malformation – two case report

Easmond Ofori¹, Atta Owusu Bempah¹, Naana Ayiwa Wireko Brobby¹,², Sandra Kwarteng Owusu¹,², Gyikua Plange Rhule¹,² Isaac Okyere¹,², Adwoa Pokua Boakyew Addo¹,², Akua Afriyie Ocran¹,², Stella Agyei¹, Naomi Adjetey¹, Obed Otoo¹, Augustine Badu-Peprah¹,²

¹Komfo Anokye Teaching Hospital
²School of Medicine and Dentistry, Kwame Nkrumah University of Science and Technology.

Background

Congenital Pulmonary Airway Malformation (CPAM), is the most common Congenital Thoracic Malformation, accounting for 95% of congenital echogenic lung lesions detected antenatally on ultrasonography (USG).

Antenatally diagnosed CPAM may regress or result in hydrops fetalis. Management options include expectant fetal follow-up, maternal administration of steroids and fetal surgery. We present two cases of antenatally diagnosed CPAM with both mothers consenting to and receiving antenatal steroids.

Case 1

A 31-year-old primigravida was noted with homogeneous highly hyperechoic right lung mass measuring 3.0 x 3.1 x 2.5cm at 24 weeks gestation on USG. The mass-to-thorax ratio (MTR) was 0.72, with no systemic feeding artery noted, stomach bubble was normally situated, there was no hydrops. An initial diagnosis of CPAM of the right lung was made. At 38 weeks' gestation, USG showed mass was unmeasurable. Delivery was via CS at 39 weeks. Baby was well at birth and discharged home after 48 hours of monitoring, baby is 4 months old and growing well.

Case 2

A 33-year-old G4P3AA was diagnosed with CPAM on USG at 22 weeks' gestation. There was displacement of fetal heart to the right hemi-thorax. Colour Doppler did not show a systemic feeding arterial supply, or hydrops, and no associated structural anomaly. Serial USG for MTR at 28- and 32-weeks' gestation showed increase of 0.72 and 0.86 respectively, with polyhydramnios. Further USG noted MTR of 0.57. Delivery was by emergency caesarean section (CS) for prolonged labour at term. Baby required admission due to hypoxia and respiratory distress on the first day of life, baby was discharged on day 14 post-delivery. Chest computed tomographic angiogram noted a feeding vessel to part of the right lung. Patient is 6 months old and has undergone a successful surgery.

Conclusion

Antenatal USG diagnosis and multidisciplinary approach to management in Congenital Thoracic Malformations is essential and improves antenatal and post-natal outcomes.