CHOC Children's

Congenital Cystic Adenomatoid Malformation (CCAM)

A congenital cystic adenomatoid malformation (CCAM) is a lesion on a fetus' lung. It is benign (non-cancerous) and can appear as a cyst or a lump in the chest. The cause of a CCAM is unknown, and it is not related to anything the mother did or did not do during the pregnancy. CCAM is sometimes referred to as congenital cystic pulmonary malformation (CPAM).

How is a CCAM diagnosed?

A CCAM is detected during a routine prenatal ultrasound. A fetal MRI or fetal echocardiogram may also be used to confirm the diagnosis.

During the pregnancy, the fetus will grow, and the mass may get smaller or disappear. In some cases, the mass may get larger. Your baby's doctor will pay close attention to see if this happens. Most babies will be carried to term and have normal development and lung function.

If your baby has been diagnosed with a CCAM, we would be happy to schedule a consultation with your family and one of our top surgeons, as well as a CHOC neonatologist and your perinatologist, to prepare for the birth and subsequent care of your baby.

How is CCAM treated?

Most babies with a small CCAM are born with no symptoms and can go home after a few days in the hospital. Surgery to remove the CCAM is usually performed when a baby is three to six months old. This is done through an operation in the chest, and the part of the lung that contains the CCAM is removed.

In rare cases, a large CCAM can cause amniotic fluid to accumulate in the fetus, which causes the fetus to have heart failure. This condition is called hydrops. A CCAM can be so large that it prevents the fetus' lungs from developing, causing pulmonary hypoplasia, or small lungs. In these rare cases, the baby may need surgery in the womb or may need to be delivered early depending on how far the pregnancy has progressed.

Your perinatologist, a specialist in fetal and maternal medicine, will discuss your delivery plans. Your baby should be born at a hospital with close access to a neonatal intensive care unit (NICU) that has extracorporeal membrane oxygenation (ECMO) available, which will help your baby's heart and lungs function if the condition is severe. CHOC Children's NICU is designated a Level 4 NICU—the highest level available because of the complex conditions we treat—and we are the only hospital in Orange County to provide ECMO.

What is the long-term outlook for babies with a CCAM?

The outlook for babies who have a CCAM removed is very good. They usually have no limitations on their activities and have no increased risk for respiratory problems.

To schedule a consultation with a CHOC Children's pediatric surgeon, please call 714-364-4050.