Microcephaly

Patient Information Series – What you should know, what you should ask.

What is Microcephaly?

A Diagnosis of Microcephaly refers to some babies having a small head when measured by ultrasound during pregnancy, and with a tape measure around the head after birth. If the baby's head circumference is much smaller than the average head circumference for their age group or the week of pregnancy, he/she is said to have microcephaly. Typically, the measurement would have to be two standard deviations (2SD) or more below the average, or smaller than about 95% of fetuses or babies of the same age, to be described as microcephaly. Ultrasonography for the determination of microcephaly is best done at 28 weeks or in the third trimester of pregnancy.

How does Microcephaly happen?

There are a number of potential causes of microcephaly. Microcephaly may be inherited if one or both parents is/are affected. Chromosomal abnormalities such as Down syndrome may result in the development of a small head.

Contracting certain infections whilst pregnant may result in the baby getting microcephaly, such infections include cytomegalovirus (CMV), rubella, HIV, toxoplasmosis, herpes, syphilis and most recently Zika. Maternal consumption of alcohol, certain drugs, or smoking during pregnancy as well as severe malnutrition can increase the risk of microcephaly in the fetus, as can maternal exposure to ionizing radiation or heavy metals such as mercury and arsenic. Injury to the developing brain of a fetus or newborn baby may also result in the development of microcephaly.

Should I have more tests done?

Additional testing would be guided by the suspected cause of microcephaly. Other features seen in your baby's anatomy could warrant investigations for a specific disease or syndrome. A

magnetic resonance imaging (MRI) scan may be needed in certain situations to assist in making a determination of the cause of microcephaly. If a chromosomal abnormality is suspected, genetic testing can be performed; if a viral infection is suspected, maternal and fetal tests, such as a blood draw and/or amniocentesis, can be performed to help determine if the baby was infected.

What are the things to watch out for during the pregnancy?

Babies may have no other symptoms at birth apart from having a small head. Because a small head may be associated with certain disease conditions, it is important to monitor the unborn baby well during pregnancy to ensure that growth is adequate and rule out other anatomic malformations. This monitoring can be achieved through regular antenatal clinic attendance and repeated ultrasound scanning, assessing for any evidence of growth restriction or other problems.

What does it mean for my baby after it is born?

Some babies with microcephaly may not develop any other symptoms apart from the small head, and having a small head is not necessarily a predictor of your child's functional outcome. Others may however develop certain problems depending on the cause of the microcephaly, which can include developmental delays or learning difficulties, problems seeing and/or hearing, cerebral palsy, seizures, and hyperactivity.

After delivery, you might be referred to a physician who specializes in treating babies like yours, such as a pediatric neurologist. They can monitor your baby's continued growth and development and work with you to devise a treatment plan that suits your baby's individual needs. While there is no specific treatment for microcephaly, early intervention with stimulation and play programs is beneficial, as well as working with specialized personnel (for example, physical, occupational, or speech therapists, and others) .

Will it happen again?

The chances of microcephaly happening again in subsequent pregnancies depend on the underlying cause. It is highly variable and may range from 50% to 25% depending on whether one or both parents are affected. If the microcephaly is due to a chromosomal abnormality such as Down syndrome, the risk is about 1% in addition to the maternal age related risk. If the microcephaly resulted from an infection or an exposure to other agents, the risk in subsequent pregnancies is minimal.

What other questions should I ask?

1. What is the most likely cause of my baby's microcephaly?
2. How often will I have ultrasound examinations done?
3. Can my baby's condition be corrected through surgery?
4. Will my baby require special care?
5. Can I meet the caregivers who will be assessing my baby after he/she is born and consulting on his/her care before delivery?

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