

Fetus-in-fetu

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

What is Fetus-in-fetu?

Fetus-in-fetu (FIF) is an extremely rare anomaly of monochorionic, diamniotic twins in which a malformed fetus resides in the body of its normal sibling during development. It occurs in about 1 in 500,000 live births.

How is fetus-in-fetu detected?

Fetus-in-fetu can be detected by prenatal ultrasound. It typically shows up as a complex mass with well seen borders, inside the abdomen of the baby. Commonly, the mass contains a fluid-filled sac with solid elements or bony structures within. There can also be calcifications inside the mass.



Figure 1. The parasitic fetus (red circle)

What causes fetus-in-fetu?

There are two prevailing theories that have been put forth for the development of FIF. One theory is that FIF is a highly differentiated form of a teratoma (an abnormal collection of cells). The other is the “parasitic twin” theory. This theory suggests a malformed fetus forms inside the body of its otherwise normal twin and shares a common blood supply. Most people think that the “parasitic twin” theory is the explanation.

Should I have more tests done?

You will be offered additional testing to assess the mass and associated anomalies.

Tests that may be offered include:

- **A detailed ultrasound examination:** This aims to carefully look at your baby for any other abnormalities.
- Sometimes, fetal **MRI** can be done to confirm the diagnosis and help pediatric surgeons with surgical planning. This testing can be performed, if available, if it will change the management of the pregnancy.

What are the things to watch for during the pregnancy?

Babies with FIF are at risk of some problems during the pregnancy. That is why most specialists will recommend regular ultrasound examinations. Your doctor will discuss how often these tests will be done. The ultrasound will help identify if the baby is developing extra fluid in the kidneys or abdomen or a large abdominal circumference due to pressure in the abdomen from a growing FIF. Occasionally there are complications from leaking of the sac contents, or excess amniotic fluid may collect in the uterus, a condition called polyhydramnios.

Caesarean delivery may be required if the fetal abdomen becomes too large to fit through your birth canal.

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What does it mean for my baby after they are born?

After the baby is born, the pediatric team will perform additional tests to confirm the diagnosis before feeding the baby. These tests may include abdominal ultrasound, X-Rays, CT, MRI or other studies depending on the recommendations from the pediatric team.

When the baby is stable, a surgeon will remove the mass and it will be sent to the pathology department for further tests.

Although fetus-in-fetu is not typically associated with any long-term problems, your baby may be monitored by ultrasound, MRI or CT scan. Blood tests such as alpha-fetoprotein (AFP) and human chorionic gonadotropin (hCG) may be necessary for 2 years after birth in order to detect malignant recurrence. Most previous reports showed normal outcomes after the parasitic twin was removed.

Will it happen again?

The risk of having a second baby with FIF is extremely low.

What other questions should I ask?

- Do you see any additional abnormalities in my baby?
- Is there evidence of obstruction of the kidneys or abdominal distention?
- Is the amniotic fluid around the baby normal?
- How often will I have ultrasound examinations done?
- What will you be looking for during these examinations?
- Where should I deliver?
- Where will my baby receive the best care after birth?
- Can I meet the team of doctors who will be looking after my baby in advance?

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