Let's Talk About...

Prenatal Counseling: Small bowel atresia

What is small bowel atresia?

A small bowel atresia [uh-TREE-zee-uh] occurs when part of the small intestine (bowel) is obstructed (blocked) or missing at birth. It is also called intestinal atresia.

The small intestine is the tube that connects the stomach to the large intestine and helps the body digest food. In a complete atresia, there is a complete blockage or section where the ends of the bowel don't connect. In a partial obstruction, part of the intestine may narrow, but some fluids and food can still pass through.

There are 3 types of small bowel atresia:

- **Duodenal atresia:** The intestine narrows at the duodenum [doo-oh-DEE-num], the first part of the small intestine, immediately after the stomach.
- **Jejunal atresia:** The intestine narrows at the jejunum [jeh-JOO-num], the second portion of the small intestine.
- **Ileal atresia:** The intestine narrows at the ileum [ILL-ee-um], the third portion of the small intestine (close to the colon).

About 1 in 6,000 to 1 in 10,000 babies are born with duodenal atresia each year. It is the most common small bowel obstruction diagnosed before birth. A baby with duodenal atresia may have other problems, including trisomy [try-soh-me] 21 (Down syndrome), congenital (present since birth) heart defects, cystic fibrosis, or an annular pancreas (a condition in which the tissue from the pancreas surrounds the duodenum).

About 1 in 1,000 to 1 in 3,000 babies are born with jejunal or ileal atresia each year. These are the most common intestinal obstructions found in newborns. A baby with jejunal or ileal atresia is less likely to have other congenital problems.

How is small bowel atresia diagnosed during pregnancy?

Small bowel atresia is often diagnosed later in pregnancy by ultrasound; it's hard to diagnose before 24 weeks into the pregnancy.

In duodenal atresia, the baby's stomach and the first part of the duodenum are large (called the "double bubble" sign). Your baby may also have polyhydramnios [PAHL-ee-hy-DRAM-nee-ohs]. This is a buildup of amniotic fluid (liquid that protects the baby in the womb) that causes problems because the baby can't pass amniotic fluid into the entire intestine.

Jejunal and ileal atresia are harder to diagnose before delivery because they occur lower in the intestine. There are also fewer symptoms during pregnancy, like polyhydramnios. However, jejunal and ileal atresia can also enlarge the stomach and upper part of the small intestine.

Later in pregnancy, amniotic fluid amounts increase and the bowel becomes dilated (larger), making it easier to see on an ultrasound.

What tests are needed after diagnosis?

After diagnosis, the fetal team may recommend follow-up tests, including:

- **A fetal echocardiogram** [ek-oh-CAR-dee-oh-gram] or **ECG.** This heart ultrasound allows the pediatric cardiologist to look closely at the heart structure and function. Your baby may need this test because babies with duodenal atresia have an increased risk of heart problems.
- **A comprehensive ultrasound.** This ultrasound provides more detail about other body structures the atresia may affect.
- **Genetic testing.** You may meet with a genetic counselor, who'll give you more information about genetic screening tests.

You will also have frequent ultrasounds to monitor your baby's growth, intestinal size, and your amniotic fluid levels. The fetal team will also recommend non-stress tests (NSTs) later in your pregnancy to monitor your baby and your contractions.

How does small bowel atresia affect my baby?

The way small bowel atresia affects your baby depends on its location and severity, and whether your baby has other problems present at birth. Its effects can range from very mild to severe.

How is small bowel atresia managed during pregnancy?

There is no fetal treatment for small bowel atresia, but some babies deliver earlier than expected. Because of this, your obstetrician should monitor you closely during your pregnancy. You can vaginally deliver a baby with small bowel atresia. Your obstetrician will decide if you need a cesarean section (C-section), depending on your baby's overall health.

The fetal team will review your imaging and explain your test results, recommend ways to manage your pregnancy, and help you meet the pediatric specialists who'll care for your baby after delivery.

Where should I deliver my baby?

You should deliver your baby at a hospital with a neonatal intensive care unit (NICU) that specializes in treating intestinal atresia. A pediatric surgeon should also evaluate your child there.

How is the intestinal atresia managed after delivery?

A neonatologist [nee-oh-nay-TAHL-oh-jist], a specially trained pediatrician, will manage your baby's medicines, feeding, and daily needs in the NICU. They will make sure their heart and lungs are working right and help them become healthy before surgery.

Your baby may need:

- **An NG or OG tube.** A healthcare provider inserts a nasogastric [NAY-zo-gas-trick], or NG, tube in your baby's nose or an orogastric [or-oh-GAS-trick], or OG, tube in your baby's mouth. The tube goes all the way to the stomach and sucks out any fluid. This prevents your baby from choking or breathing stomach contents into the lungs.
- **A PICC line.** A peripherally [per-IF-er-uh-lee] inserted central catheter (PICC line) is a tiny tube inserted through the umbilical cord and then an arm or leg. Your baby will receive fluids, antibiotics, medicine, and nutrition through the PICC line.
- **TPN.** Your baby won't be allowed to eat at first, so they'll receive total parenteral [pah-REN-ter-ull] nutrition, or TPN, through the PICC line. TPN contains protein, fat, sugar, vitamins, and minerals and will meet all your baby's nutritional needs.

What tests does my baby need before surgery?

Your baby may need several tests before surgery, including a(n):

- Abdominal x-ray
- Contrast enema (fluid with dye inserted into the rectum to look at the intestine function)
- Abdominal (belly) ultrasound
- Echocardiogram

How is a small bowel atresia repaired?

To repair the atresia, the surgeon will make a small opening in your baby's belly. They will then connect the blocked end of the intestine to the healthy intestine area just past the blockage.

A surgeon will repair the small bowel atresia within the first day or so after you deliver your baby. They will discuss your baby's test results and the surgery with you.

When can my baby go home?

Your baby can go home once their intestines begin working after surgery and they begin eating by mouth. However, it usually takes several weeks for your baby to get enough nutrition to go home. You should anticipate your baby staying in the NICU for 4 to 6 weeks after birth.

What outcome can I expect after my baby's surgery?

A baby with small bowel atresia's outcome depends on where the intestine is blocked and how severe it is. Other birth defects can also affect your baby's outcome. After your baby goes home, they will need close follow-up with a pediatrician to monitor their growth and development.

Where can I learn more?

To learn more about small bowel atresia, visit the National Institutes of Health's Genetic and Rare Diseases (GARD) information center (**rarediseases.info.nih.gov**). Then search for "duodenal atresia" or "jejunal atresia" in the search bar at the top of the page.

Questions for my doctor