

Infant Health

MATTERS

Q: How do antibodies work?

All of us have immune systems that can create antibodies, a specialized type of protein. They are the first line of defense against any foreign invaders to the human body. Think of the body's response to an infection, for example.

But sometimes pregnant women can develop antibodies that actually work against the baby growing inside their body. While the placenta usually stops harmful substances, cells can traffic in and out of the placenta, allowing antibodies to harm the developing baby.

Q: When a baby receives harmful antibodies, what happens?

A number of different diseases can develop.

There's what's known as hemolytic disease of the fetus and newborn. This is where there is a blood incompatibility between the mom and the developing



Kenneth Moise, Jr., MD
Fetal Medicine Specialist

baby. It can cause the baby to be extremely anemic and can also lead to fetal or infant death.

Another condition that can develop is fetal and neonatal alloimmune thrombocytopenia. With this disease, antibodies can cause the infant's fetal platelet count to drop and lead to bleeding problems.

And then there's congenital heart block. Here, the harmful antibodies attack a specific node in the developing baby's heart, creating a blockage that can cause the baby to have a dangerously slow heart rate.

When antibodies do cause harm, it's usually in a second or subsequent pregnancy.

“Sometimes pregnant women develop antibodies that actually work against the baby growing inside their body.”

Q: How do you treat these diseases?

It's a long process, usually beginning at about 10 weeks gestation and continuing even after birth.

We do lots of ultrasounds to monitor the developing baby. In some cases it can mean blood transfusions, where we insert a needle into the umbilical cord. Sometimes we use an IV medication that's called immunoglobulin to increase the developing baby's platelet count.

It's a lot for a pregnant woman to go through. Many decide not to have another baby or to adopt if they want to expand their family. Over my 35 years in practice, I've had only two patients come back with a subsequent pregnancy.

“Don't be afraid to ask questions.”

Q: What advice do you have for expectant mothers?

This is really a conversation that should begin before conception. Women should talk to their doctors about previous pregnancies, genetics, cell

counts and risk factors for future pregnancies. Then they should work together to sketch out a plan for what the next months would look like.

“We need more education on these conditions.”

Some women may decide to consider adoption or in-vitro fertilization, which can negate the risk of a mother transferring harmful antibodies to her developing baby.

Q: How can policymakers, health care providers and advocates help?

Within the health care system, we should probably be checking the patient's platelet type, much like we check the patient's blood type. We don't do it often because it's expensive and fetal and neonatal thrombocytopenia affects only a small percentage of the population. Some other countries take more action on checking platelet type.

More broadly speaking, we need more education on these conditions. It amazes me that even some health care providers are unaware.

And patients need to step up and become their own advocate, especially in taking charge of their health and the health of their unborn baby. Don't be afraid to ask questions.