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Autoimmune Diseases and Fertility

By Brette Sember

It sounds like something from a horror movie, but sometimes autoimmune conditions cause the body to attack itself. Knowing how to fend off these attacks can help ensure a healthy conception and a healthy pregnancy.



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Autoimmune diseases are a group of conditions that occur when the body's immune system, which is supposed to fight off invaders like bacteria and viruses, malfunctions and begins to attack the body. You've probably heard of some of the more common autoimmune diseases: Type 1 diabetes, lupus, multiple sclerosis, rheumatoid arthritis, Graves' disease, and

Hashimoto's thyroiditis. As much as 15 percent of the U.S. population suffers from an autoimmune condition, and more than three-quarters of those affected are women. These diseases are often first diagnosed in women in their childbearing years. And, not surprisingly, the illnesses can make getting pregnant and having a healthy baby more complicated than usual.

What Makes the Body Attack Itself?

Scientists believe that autoimmune diseases are likely the result of a genetic predisposition that is triggered by a virus or something else in the environment (such as allergens or pesticides) which "turns on" the gene that causes the body to attack itself. Norbert Gleicher, M.D., a fellow of the American College of Obstetricians and Gynecologists and founder and medical director of the Center for Human Reproduction in New York City, explains, "Autoimmune disease is about inflammation. The immune system reacts to cells and creates an inflammatory reaction." It's the inflammation that causes the symptoms and the damage.

The various diseases in the autoimmune group are really just different expressions of the message

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for the body to attack itself. In arthritis, for instance, the joints are attacked. In Hashimoto's and Graves' diseases it's the thyroid gland. In Type 1 diabetes the pancreas is attacked, and in multiple sclerosis it's the nervous system. Symptoms and treatment vary, depending on the specific disease and what part of the body is affected.

Autoimmune diseases tend to run in families, but different members of the same family may suffer from different autoimmune conditions. For example, a woman with rheumatoid arthritis may have a mother with lupus, a sister with Type 1 diabetes, and an aunt with Graves' disease.

There's disagreement in the medical community about just how much of an effect these conditions have on fertility and pregnancy. Some doctors are convinced that autoimmune diseases play a major role in fertility problems. Others believe that most of these illnesses don't directly cause infertility, since most don't specifically affect the reproductive organs. One thing there's consensus on is that the medications (such as steroids or methotrexate) that must be taken to control many autoimmune conditions can be very dangerous for a developing fetus. To

make things even more complicated, these diseases have flares (periods of time when the symptoms worsen) and remissions, with no warning or explanation. Women with an autoimmune disorder can have a healthy conception and pregnancy, but it may take extra planning and care.

Getting Pregnant While Under Attack

Any woman being treated for an immune disorder needs to discuss her family-building plans with her physician well in advance of "trying," so that there's time to get off potentially harmful medications and try to conceive before the disease flares. Women must work closely with their doctors to optimize this window for pregnancy.

Because the safe window for conception—a period that's medication-free with the disease in remission—may be relatively short, women with autoimmune diseases may turn to fertility treatments more quickly than usually recommended. For a woman with severe rheumatoid arthritis, for example, it may not be feasible to be off drugs for a year (the normal recommended time period to wait before seeing a specialist).

A Cease-Fire During Pregnancy

Happily, many women with autoimmune diseases go into remission while they're pregnant. Andrew Levi, M.D., a reproductive endocrinologist, founder and medical director of Park Avenue Fertility & Reproductive Medicine in Trumbull, Connecticut, explains, "One-third of conditions worsen, one-third improve, and one-third stay the same. If you can get a woman pregnant while she is not flaring, she is likely to continue not flaring during pregnancy."

When flares do occur during pregnancy, they generally don't pose a risk to the baby (although they may be uncomfortable and worrisome for the mom-to-be). "There is no increased risk of miscarriage during a flare," reassures Dr. Levi. But treating these flare-ups is a delicate matter of carefully choosing medication that will not harm the pregnancy, but will help treat symptoms so a woman can feel as healthy as possible while pregnant.

When the Body Attacks the Baby

As far as the immune system goes, pregnancy is an exception to the rule about fighting foreign invaders. In order for pregnancy to occur, the immune system must allow foreign cells (sperm) to enter the body and eventually grow into a foreign object (the embryo). Most of the time, the immune system knows to tolerate these special foreign bodies.

But sometimes a woman's immune system has the opposite response and declares war on the sperm or the embryo. One of the best understood of these conditions is antiphospholipid syndrome (APS), a condition in which the mother's body creates blood clots that cut off the blood supply to the placenta. With each attempted pregnancy, the mother's antibody levels increase, making a successful pregnancy more and more unlikely. When this condition is recognized, usually after repeated miscarriages, it can be successfully managed with medication to enable a healthy pregnancy. Malfunctioning natural killer (NK) cells (a usually beneficial part of the immune system) is another type of autoimmune infertility.

Many doctors believe that women who have any type of autoimmune disease are at increased risk of developing an autoimmune infertility, which can cause recurrent miscarriages. Dr. Gleicher estimates that women with an autoimmune disease have, depending on which study you read, a 15 to 85 percent miscarriage risk once they conceive. "All major autoimmune diseases, even if they are under control at the time you are trying to conceive, can impact fertility, even at subclinical levels," he says.

A Medical Controversy

These kinds of statistics might make it seem as if any woman with an autoimmune disease should be carefully tested prior to conceiving for autoimmune problems that can cause infertility. But many physicians are not convinced. Dr. Levi, for instance, a reproductive endocrinologist, says that in his opinion only 5 to 10 percent of infertility and recurrent miscarriage is caused by autoimmune diseases, and he says the medical literature supports this view. Most pregnancy losses, he points out, are caused by chromosomal abnormalities, hormonal problems, uterine problems, clotting, and genes.

He also cautions against over-testing. "If a woman has an autoimmune disease, we do not automatically test for the infertility type of autoimmune disease. If a woman has two consecutive miscarriages, or has three non-consecutive miscarriages, then

we evaluate her for this. I don't believe this is as predominant as some physicians make it out to be." In fact, he says, "In the past two years I have not had a single patient with APS (antiphospholipids) though I have tested many for it. It's simply not as common as some physicians want you to think."

In particular, Dr. Levi is concerned about the use of IVIG (intravenous immunoglobulin—human antibodies derived from donor blood) as a treatment for autoimmune infertility. The theory behind this treatment is that the IVIG will block a woman's own immune response which may be attacking the pregnancy. But Dr. Levi says that IVIG is unproven, and he wants women to know that this therapy is only sanctioned by the American Society for Reproductive Medicine if used as part of a regulated clinical trial for miscarriages.

Bottom line: Women who have a known or suspected autoimmune disease should consult with an ob/gyn before getting pregnant. For everyone else, it's unlikely—though not impossible—that an autoimmune problem will affect plans for parenthood. ■

Stopping the Attack on Yourself and Your Baby

If you have an autoimmune disease or suspect that autoimmunity might be affecting your ability to conceive or carry a pregnancy, you should choose your specialist carefully. "There are REs [reproductive endocrinologists] who understand nothing about immunology, and there are rheumatologists who know nothing about reproduction," says Dr. Gleicher. He recommends finding a specialist who understands both. But use caution and check the credentials of specialists who call themselves reproductive immunologists. "There's no such specialty," cautions Dr. Levi. "These are REs. There is no degree in this."

The best place to start is with your own ob/gyn. Ask about your situation and bring up the subject of autoimmunity. If you experience two or more consecutive miscarriages, or three or more non-consecutive miscarriages, insist on seeing a reproductive endocrinologist. Then ask if an autoimmune problem might be responsible for your pregnancy losses.

Nancy Hemenway, executive director of INCIID (The International Council on Infertility Information Dissemination) was herself unable to have a successful pregnancy until she was diagnosed with and treated for two autoimmune conditions (APS and NK cells). Speaking from experience, she recommends that women who may be dealing with similar problems ask their reproductive endocrinologists to send their tests out for analysis to a lab that has expertise in dealing with them, since some of the tests are extremely sensitive. Your reproductive endocrinologist can consult with the American Society for Reproductive Immunology (theasri.org) to find and work with a qualified lab.

Hemenway also says women should be sure to ask how many patients the doctor has treated for autoimmune conditions, and what the success rates are—not just for pregnancy, but for live births. Because, after all, that's what really matters.