

What If the Immune System Attacks Itself?

The immune system usually protects the body. But sometimes attacks itself. When this happens, autoimmune diseases can occur in almost any part of the body. Parts we can see, like the skin, and parts we can't see, like the heart, may be affected.

Autoimmune diseases can slowly destroy a certain type of organ or tissue. They can also make an organ grow too large or interfere with how it works. An example is when the immune system attacks the pancreas, which stops making insulin, so a person develops type 1 diabetes. A faulty immune system can also cause problems all over the body. An example is the pain and swelling in rheumatoid arthritis.

There are more than 100 autoimmune diseases, including the two mentioned above. Other common ones are Crohn's disease, celiac disease, lupus, alopecia, psoriasis, and vitiligo. You've probably heard of some of these. But maybe you didn't realize they were caused by the immune system working overtime.

What Causes Autoimmune Diseases?

Autoimmune diseases do not usually have one simple cause. Both genes and the environment play a part. Several different *mutated* (changed) genes may be passed down in families. Having these genes doesn't mean you'll definitely get an autoimmune disease. It just means that you are a bit more likely. Researchers call this "family clustering."

Family members may have several different autoimmune diseases. For example, a child may have

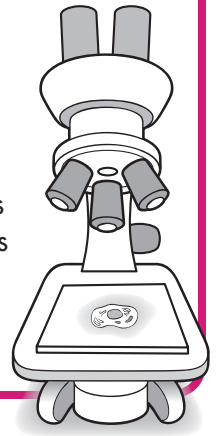
type 1 diabetes, his mother may have lupus, and his aunt may have rheumatoid arthritis. People can also have more than one autoimmune disease at a time. This is why it is very important to know your family medical history and share it with your doctor.

The environment also may trigger autoimmune diseases. This means things from outside the body can affect a person's health. Certain drugs, substances in foods, viruses, bacteria, pollutants, and stress contribute to autoimmune diseases. Researchers are hard at work learning more about these causes.

How Are Autoimmune Diseases Treated?

Doctors use many different treatments for autoimmune diseases. For example, in type 1 diabetes, the pancreas stops making insulin naturally. So people need to give themselves insulin shots. Drugs are also used to calm the immune system—but not too much! The body still needs to defend itself against disease. Other drugs are used to ease pain and swelling from rheumatoid arthritis. If the autoimmune disease affects the blood, transfusions may be given.

Stem cell therapy and bone marrow transplants are experimental treatments. Researchers are working on better drugs and other treatments to improve people's lives. In the future, we hope to have cures for all autoimmune diseases or ways to prevent them in the first place.



Questions:

1. True or false: Autoimmune diseases occur when the immune system attacks itself. _____
2. The number of autoimmune diseases is _____.
a. 25 b. 50 c. more than 100
3. True or false: People can only have one autoimmune disease at a time. _____
4. What treatment is used to calm the immune system? _____ Underline the sentence in the text that supports your answer.
5. Finding new treatments would be great, but what would be even better? _____

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Answers

1. True
2. c
3. False
4. Drugs; students should underline the fourth sentence in paragraph 7.
5. Finding a cure or preventing autoimmune diseases in the first place

Learn more about autoimmune disease at www.aarda.org.