Guillain-Barre Syndrome

Guillain-Barré syndrome is a disorder in which the body's protection (*immune*) system attacks part of the nervous system. This syndrome is rare. Guillain-Barré is called a syndrome rather than a disease because it is not clear that a specific disease-causing agent is involved.

CAUSES

- Usually Guillain-Barré occurs a few days or weeks after the patient has had symptoms of a viral infection:
  - Breathing (*respiratory*).
  - Stomach (*gastrointestinal*).
- Sometimes, surgery or vaccinations will set off the syndrome.
- The disorder can develop over the course of hours or days. Or it may take up to 3 to 4 weeks.
- No one yet knows why Guillain-Barré strikes some people and not others. Nor do they know what sets the disease in motion.
- What scientists do know is that the body's immune system begins to attack the body itself. This causes what is known as an *autoimmune disease.*

SYMPTOMS

The first problems (*symptoms*) of this disorder include varying degrees of weakness or tingling sensations (feeling) in the legs. In many cases, the weakness and abnormal sensations spread to the arms and upper body. These symptoms may worsen until the muscles cannot be used at all. Then the patient is almost totally paralyzed. In these cases, the disorder is life-threatening. It is considered a medical emergency. The patient is often put on a respirator to assist with breathing. Most patients recover from even the most severe cases of this syndrome. But some continue to have some degree of weakness.

DIAGNOSIS

Guillain-Barré is called a syndrome rather than a disease because it is not clear that a specific disease-causing agent is involved. Reflexes such as knee jerks are usually lost. Signals traveling along the nerve are slower. So a nerve conduction velocity (NCV) test can give caregivers clues to aid the *diagnosis*. This means they try to learn what is wrong. The cerebrospinal fluid (CSF) that bathes the spinal cord and brain contains more protein than usual. So a caregiver may decide to perform a spinal tap.

TREATMENT

There is no known cure for this syndrome. But treatments can give some relief and speed up the recovery in most patients. There are also a number of ways to treat the complications of the syndrome. Currently, *plasmapheresis* and *high-dose immunoglobulin therapy* are used. Plasmapheresis seems to reduce the severity and length of the Guillain-Barré episode. In high-dose immunoglobulin therapy, caregivers give intravenous injections of the proteins that, in small quantities, the immune system uses naturally to attack invading organisms. Researchers have found that giving high doses of these immunoglobulins to patients can lessen the immune system attack on the nervous system. The most important part of the treatment for this syndrome is keeping the patient's body functioning during recovery of the nervous system. This can sometimes require placing the patient on:

- A respirator.
- A heart monitor.
- Other machines that assist body function.

This syndrome can be devastating due to its sudden and unexpected beginning. Most people reach the stage of greatest weakness within the first 2 weeks after symptoms appear. By the third week of the illness, 90 percent of all patients are at their weakest. The recovery period may be as little as a few weeks. Or it can be as long as a few years. About 30 percent of patients still have a remaining weakness after 3 years. About 3 percent may suffer a return of muscle weakness and tingling sensations many years after the initial attack.

RESEARCH BEING DONE

Scientists are concentrating on finding new treatments and refining existing ones. They are also looking at the workings of the immune system. They want to find which cells are responsible for beginning and carrying out the attack on the nervous system. The fact that so many cases of this syndrome begin after a viral or germ (*bacterial*) infection suggests that certain characteristics of some viruses and bacteria may activate the immune system improperly. Investigators are searching for those characteristics. Neurological scientists, immunologists, virologists, and pharmacologists are all working together:

- To learn how to prevent this disorder.
- To make better therapies available when it strikes.

MORE INFORMATION

Guillain-Barre Syndrome Foundation International
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