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Diabetic neuropathy

Diabetic neuropathy is damage to nerves in the body that occurs due to high blood sugar levels from diabetes.

Causes

Nerve injuries are caused by decreased blood flow and high blood sugar levels. They are more likely to develop if blood sugar levels are not well controlled.

About half of people with diabetes will develop nerve damage. Most of the time symptoms do not begin until 10 to 20 years after diabetes has been diagnosed.

Nerve injuries may affect:

- Nerves in the skull (cranial nerves)
- Nerves from the spinal column and their branches
- Nerves that help your body manage vital organs, such as the heart, bladder, stomach, and intestines (called autonomic neuropathy)

Symptoms

Symptoms often develop slowly over several years. Which symptoms you have depend on the nerves that are affected.

People with diabetes may have trouble digesting food. This can make your diabetes harder to control. Symptoms of digestion problems include:

- Feeling full after eating only a small amount of food
- Heartburn and bloating
- Nausea, constipation, or diarrhea
- Swallowing problems
- Throwing up food a few hours after a meal

Tingling or burning in the arms and legs may be an early sign of nerve damage.

- These feelings often start in your toes and feet.
- You may have deep pain, often in the feet and legs.

Nerve damage may cause you to lose feeling in your arms and legs. Because of this you may:

- Not notice when you step on something sharp
- Not know that you have a blister or small cut
- Not notice when you touch something that is too hot or cold

Damage to nerves in your heart and blood vessels may cause you to:

- Feel light-headed when you stand up (orthostatic hypotension)
- Have a fast heart rate

- Not notice angina, the chest pain that warns of heart disease and heart attack

Other symptoms of nerve damage are:

- Sexual problems. Men may have problems with erections. Women may have trouble with vaginal dryness or orgasm.
- Not being able to tell when your blood sugar gets too low
- Bladder problems. You may leak urine and may not be able to tell when your bladder is full. Some people are not able to empty their bladder.
- Sweating too much – when the temperature is cool, when you are at rest, or at other unusual times

Exams and Tests

A physical exam may show:

- A lack of reflexes in the ankle
- A loss of feeling in the feet (your health care provider will check this with a brush-like instrument called a monofilament)
- Changes in the skin
- Drop in blood pressure when you stand up after sitting or lying down

Tests that may be done include:

- Electromyogram (EMG) – a recording of electrical activity in muscles
- Nerve conduction velocity tests (NCV) – a recording of the speed at which signals travel along nerves

Treatment

It is very important to keep your blood sugar in a healthy range. Doing so may prevent nerve damage or make symptoms less severe.

You should learn the basic steps for managing your diabetes, avoiding its complications, and staying as healthy as possible. These steps will include diet, exercise, and sometimes medicines.

You need to check your blood sugar regularly. Your doctor will help you by taking blood tests and other tests.

A number of medications may be used to reduce painful symptoms in the feet, legs, and arms:

- Pregabalin (Lyrica) (often the first treatment used)
- Certain drugs that are also used to treat depression, such as amitriptyline (Elavil), doxepin (Sinequan), or duloxetine (Cymbalta)
- Certain drugs that are also used to treat seizures, such as gabapentin (Neurontin), carbamazepine (Tegretol), and valproate (Depakote)
- Narcotic pain medicines

Treatments for nausea and vomiting may include:

- Taking medicines that help food move more quickly through your stomach and intestines
- Sleeping with your head raised
- Eating smaller, more frequent meals

Diarrhea, constipation, bladder problems, and other symptoms are treated as needed.

Drugs such as sildenafil (Viagra), vardenafil (Levitra), and tadalafil (Cialis) may be used to treat impotence. Discuss

these medicines with your doctor before taking them.

To keep your feet healthy with diabetes, you should:

- Check and care for your feet EVERY DAY
- Get a foot exam by your doctor at least once every year, and have your health care provider check your feet at every quarterly visit.
- Make sure you wear the right kind of shoes.

Outlook (Prognosis)

Treatment relieves pain and can control some symptoms, but the disease generally continues to get worse.

Other problems that may develop:

- Bladder or kidney infection
- Diabetes foot ulcers
- Neuropathy that may hide the symptoms of angina, chest pain that warns of heart disease and a heart attack

When to Contact a Medical Professional

Call your health care provider if you develop any symptoms of diabetic neuropathy.

Alternative Names

Nerve damage - diabetic; Diabetes - neuropathy

References

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