

Peripheral Neuropathy (PN)

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Summary:

Peripheral neuropathy is a form of damage to the nerves, especially in the feet and hands. It can cause feelings of tingling or numbness or pain. Peripheral neuropathy may be caused by HIV or by drugs.

What is peripheral neuropathy?

Peripheral neuropathy (PN) is a form of nerve damage usually felt as numbness, tingling, burning, or pain in the toes and feet, and sometimes in the fingers and hands. People with HIV can experience PN either because of the direct effects of HIV on the nervous system, at any stage of infection, or because of other infections and tumours that affect the nervous system. PN can also be a side effect of some drugs, especially the antiretrovirals ddI, d4T, and ddC, as well other drugs used to treat HIV-related conditions; including thalidomide, Flagyl (metronidazole), dapsone, isoniazid, and anticancer drugs like vincristine. Recreational drugs such as alcohol, cocaine, or amphetamines may contribute to PN.

Symptoms

PN can produce sensations of tingling, burning, numbness, or pain. The pain can be severe and may interfere with walking. There may be a hypersensitivity to touch, so that wearing shoes or socks, or lying under bedclothes, can be unbearable. These symptoms usually affect both sides of the body equally. PN usually starts in the fingertips or toes and it can move upward

through the hands or feet and along the arms or legs.

Treatment

PN caused by medication can sometimes be reversed by stopping the drugs, although it may take several weeks to months for it to improve.

There is no satisfactory treatment for either the symptoms of PN or the nerve damage. While the treatment possibilities listed below may work alone or in combination for some people, they may be of no benefit to others. Much of the research on PN has been done in diabetics who can also develop this condition.

Supplements

Deficiencies in B vitamins, especially B6 and B12, are known to contribute to PN. Supplements of vitamins B1, B2, B6 and B12 may provide benefit for some people because of their role in the proper functioning of the nervous system. Because high doses of vitamin B6 (pyridoxine) can cause a form of neuropathy, the daily dose should be limited to less than 200 milligrams (mg).

Alpha-lipoic acid (also called thioctic acid) is an antioxidant that is licenced in Germany for the treatment of diabetic neuropathy. Its antioxidant

properties may help protect nerves from the inflammation and damage that HIV can cause. Acetyl-carnitine is an amino acid that may be deficient in people who develop PN while using ddI, ddC, or d4T. Taking a supplement of acetyl-carnitine may be useful to prevent or treat PN.

Evening primrose oil contains gamma linolenic acid, a compound that has relieved PN in some diabetics.

Supplements can vary widely in quality and price. It may be best to talk with a doctor of naturopathy, or an experienced staff person at a well-regarded health food store before trying a supplement.

Prescription drugs

Although the related drugs amitriptyline (Elavil), nortriptyline (Aventyl and others), and imipramine (Tofranil) are often prescribed, they seldom provide complete relief, and their benefits may wear off after several weeks. These drugs are usually started at low doses, then slowly increased if necessary. Amitriptyline is taken at bedtime because it can cause drowsiness.

The anti-seizure drug gabapentin (Neurontin) has been studied as a treatment for painful neuropathy related to diabetes. After eight weeks of treatment with gabapentin, study participants had a significant reduction in pain, as well as improvement in their sleep and in their overall quality of life. Gabapentin can be started at a dose of 300 mg per day, increased to 300 mg three times a day, and increased further if symptoms don't improve.

Another anti-seizure drug, lamotrigine (Lamictal) may also help control the pain of peripheral neuropathy. It can be started at 50 mg once a day then slowly increased up to 150 mg taken twice daily.

Mild pain may improve with anti-inflammatories like ibuprofen or naproxen. Severe, constant pain may require painkillers like Percocet or even slow-release morphine.

Experimental drugs

Nerve growth factor (NGF), produced by Genentech, is an artificially made version of the naturally occurring growth factor neurotrophin. This is a protein that nourishes and sustains nerves. NGF has been studied in both diabetic and HIV-related neuropathy, with mixed results. Although some patients felt their painful PN improved when they used NGF, neurological tests did not show significant change. It was hoped that NGF would stimulate nerve growth and repair damage, but no evidence of this was found. In April 1999, Genentech decided not to seek marketing approval from the Food and Drug Administration (FDA) in the United States.

Peptide T has been used for the treatment of HIV-related PN. There are anecdotal reports and compassionate-use studies (trials without a placebo control) that suggest Peptide T may reduce the symptoms in some users. No conclusive evidence to prove that the drug is effective has yet been published. Peptide T is an unlicensed drug and is only available through buyers' clubs in the United States.

Acupuncture

Acupuncture has been used as a treatment for PN. Two recently published clinical trials showed different results.

In a study of 46 diabetic patients with PN, 34 of them reported a significant improvement in their symptoms after six courses of acupuncture treatment, and only eight of them required further sessions. However, only seven of the 34 had complete relief of their symptoms.

A larger study of 250 patients with HIV-related peripheral neuropathy compared the effects of acupuncture, amitriptyline, and placebo. Participants were assigned to receive acupuncture at standardized acupuncture points or at placebo ("fake") points, or amitriptyline or a placebo. The researchers found no significant difference in pain relief between the active treatments or the placebos. The acupuncture points studied in this trial were standardized so

that everyone received exactly the same treatment. Acupuncture treatments are usually designed to fit the individual, and, as the researchers concluded, individualized treatments may have a different effect.

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