

CENTRAL PAIN SYNDROME

Q I was told that my hemorrhagic stroke caused “central pain syndrome.” What is central pain syndrome, and what are considered the best treatments for it?



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RESPONDS:**

A Central pain syndrome refers to pain that originates in the brain and not in the peripheral nerves, which lie outside of the brain and spinal cord. Pain is ordinarily a protective sensation that causes a person to move away from a stimulus injuring peripheral nerve fibers, such as withdrawing one’s hand when it touches a hot stove.

In the case of central pain syndrome, on the other hand, no harmful stimulus causes the pain. Instead, some injury to the sensory pathways within the brain stimulates central nerve fibers, thereby creating a perception of pain. This injury usually occurs within the thalamus, a structure that relays sensory information (excluding smell) to other parts of the brain. The most common forms of injury to the thalamus causing central pain syndrome include bleeding (hemorrhage) and ischemic stroke; the latter occurs when an artery to the brain is blocked.

The thalamus consists of two connected lobes. When one portion of the thalamus is injured, the opposite side of the body lacks sensation. Initially, this may involve a total loss of sensation. When feeling returns, sensation is distorted. Patients say it feels like a burning pain, sharp pins and needles, or even an “itch” that turns painful. Another name for this pain is “thalamic pain” or “dysesthetic pain.” The pain itself can vary from a minor annoyance to intense, debilitating and disabling—enough to severely compromise a person’s quality of life.

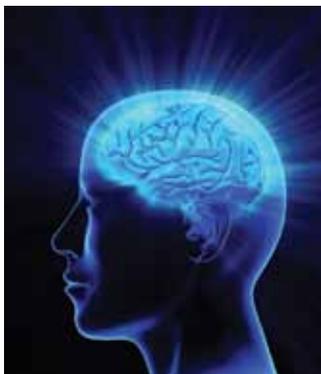
However, central pain syndrome is not always caused by a brain hemorrhage or ischemic stroke within the thala-

mus. These injuries can lead to central pain syndrome by affecting sensory pathways in the white matter of the brain, which actively affects how the brain learns, or the brainstem, which connects the spinal cord to the brain. In addition, central pain syndrome can be caused by other neurologic conditions, such as traumatic brain injury, multiple sclerosis, and brain tumors.

Treatment of central pain syndrome is difficult and often only partially successful. Older antidepressant drugs such as amitriptyline (Elavil) appear to reduce the pain, but they have side effects of sleepiness, dry mouth, and dizziness. A newer antidepressant drug called duloxetine (Cymbalta) is also used for central pain syndrome; this drug has less of these undesirable side effects than amitriptyline. Antiepileptic drugs (AEDs) appear to affect the transmission of the sensory nerves that result in central pain. The most commonly used AEDs for central pain syndrome are gabapentin (Neurontin) and pregabalin (Lyrica). Other AEDs sometimes used in treatment of pain include carbamazepine (Tegretol) and topiramate (Topamax). These medications often reduce the intensity of the pain, but they are rarely curative.

Other treatments for central pain syndrome include topical medications, physical therapy techniques, acupuncture, and electrical stimulation through the skin. These therapies do not have substantial evidence showing that they work, but in individual cases they may have some benefit. In the most problematic cases, neurosurgical procedures such as deep brain stimulation with electrodes may be used, but the effectiveness of these treatments awaits further study.

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