

Report of the Trigeminal Neuralgia Association Second National Conference,

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TN AND DENTAL PROBLEMS

Dental problems loom large for anyone with TN because the trigeminal nerve goes to both face and teeth. Some people are initially misdiagnosed by a dentist and have unnecessary root canals and/or extractions. Later on, major dental work can make the pain of TN worse or it can end a remission.

Dentist Brian D. Fuselier: It's true that TN is often diagnosed only after the patient has had a number of unnecessary dental procedures. My colleagues and I are trying to educate dentists to consider TN when they're diagnosing facial pain.

Dentists assume that when prodding a tooth produces severe pain, it is usually caused by pulpitis (inflammation of the pulp or nerve of the tooth) and the appropriate treatment is a root canal. If that doesn't help, the dentist may do a second root canal on another tooth. Eventually, the patient may have one or more teeth extracted. All this dental treatment may be unnecessary.

The first thing a dentist should do in diagnosing pain is to make sure the patient has a true dental problem. If the pain is not dental, it could be caused by a number of different conditions, including TN. To make a diagnosis, the dentist should ask questions about the quality of the pain - is it throbbing, stabbing, electrical, continuous, etc. - and about its intensity, duration and frequency, as well as its location.

Dentist Parker E. Mahan: Dentists differentiate between types of pain by taking an extensive medical history and examining the teeth, jaw muscles, salivary glands, blood vessels, mucus membranes, and temporomandibular joints. There are several facial pain syndromes that are sometimes confused with TN. They include:

Atypical odontalgia, or atypical toothache: It's atypical because X-rays show nothing wrong with the tooth but it hurts. This often occurs in 30- to 50-year-old women who are depressed. However, the pain is real.

There are a number of theories about the cause of it. Some suggest that the disorder originates in the blood vessels or the sympathetic nervous system. When patients take a tricyclic antidepressant like imipramine (Tofranil) for three-to-eight weeks, half find that the pain goes away.

Myofascial pain dysfunction (MPD): People who clench their teeth repeatedly while they sleep (a problem called bruxism) can develop pain in the muscles on the sides of the face. Hard knots appear within the muscles; squeezing a knot produces shooting pain. If a dentist injects a local anesthetic into these knots, they become soft. The injection disrupts the muscle, but it heals in three weeks. To prevent the pain from returning after that, it's necessary to prevent bruxism, perhaps with a bite splint worn at night.

Before doing a root canal, should a dentist use Tegretol to make sure the patient doesn't have TN? (If facial pain is relieved by Tegretol, that strongly suggests that it may be caused by TN.)

Dr. Fuselier: If a dentist is uncertain about whether the pain truly is a dental problem, it would be appropriate to refer the patient to a pain-management specialist, such as a neurologist, who has been trained in the use of Tegretol.

Neurosurgeon John M. Tew Jr: Sometimes patients demand that one or more teeth be extracted. If the dentist refuses them, they go looking for someone else who will agree to pull the teeth.

What is being done to educate dentists about TN?

Dr. Gremillion: At dental conferences there are presentations about facial pain, including TN, and dental schools have a growing interest in teaching their students about it. Currently there is strong pressure on the American Association of Dental Schools to make training in facial pain a mandatory part of a dentist's education.

"A family practitioner may see two cases of trigeminal neuralgia in a lifetime. A dentist may go ten years without seeing a true case of TN." - *Dr. Albert Rhoton.*

A Precursor to TN

Dr. Gremillion: Dentists sometimes see a pain problem that appears to be a precursor to trigeminal neuralgia. It can occur months or even decades before full-blown TN, and the procedure used to diagnose the problem often produces a respite.

In this condition, the pain is sometimes sporadic, sharp, and stabbing, like classic TN, but more typically it's a dull ache or it can feel like sinus pain or a toothache. It may be constant or may come and go, lasting minutes or hours each time. There is no specific trigger zone on the face but chewing, drinking hot or cold liquids, yawning, talking, or brushing teeth can bring on the pain. It is often localized at first. Over time it may spread to involve a larger area or move to another site. To make a diagnosis, the dentist numbs the area with a long-acting local anesthetic. If the pain came from a tooth, it will soon return. If it was produced by TN, relief may continue after the anesthetic wears off. In some cases, a series of injections of local anesthetic can relieve pain for months or even years.

How to Prevent TN Flare-ups after Dental Work

Why does dental work often trigger a new attack of TN for someone who is in remission? Why does it tend to make the problem worse for those who have their pain under control with medications? Is there any way to prevent these things from happening?

Dentist Parker E. Mahan: After all of the surgical procedures used to treat TN, some patients experience a breakthrough of pain. It probably doesn't take much stimulation to trigger that breakthrough.

TN presents a paradox. On one hand, it's of the utmost importance to maintain good dental health in order to avoid problems that might precipitate, an upsurge of pain. On the other hand, because major dental work can aggravate the Trigeminal nerve, you should have only procedures that are truly necessary - for instance, don't agree to let your dentist replace a very large filling with a crown if the filling is still serviceable.

If you must have major work done, I recommend pre-emptive anesthesia to prevent the pain of the dental procedure from "jazzing up" the transmission of pain signals from the trigeminal nerve to the brain.

- For a day or so before and after the procedure, increase the dose of any TN medications you're taking.
- Ask your dentist to use Marcaine without epinephrine for the local anesthetic. You may need to ask in advance because the average dentist doesn't keep this particular drug in stock. Marcaine is long-acting, so you're less likely to need multiple injections - each one producing pain signals. Epinephrine is a vasoconstrictor; added to a local anesthetic, it prevents blood flow from carrying away the anesthetic and thus prolongs its numbing effect. However, epinephrine can trigger nerve pain, so you're better off without it.
- Ask the dentist to inject the local anesthetic at a site as far as possible from the trigger point for the TN pain.
- Several hours before the procedure, take a pain-killing medication. Opioids such as codeine are good at preempting pain. After the procedure, take the painkiller again. The goal is to have at least five hours afterwards during which you're free of pain.
- If dental procedures make you very nervous, consider foregoing local anesthesia. You can have laughing gas or IV anesthesia instead to reduce emotional trauma.

If you have TN, is it better to have a root canal or to have a problem tooth pulled?

Dr. Langan: Provided an extraction isn't contraindicated for some reason, I believe it is often a better solution than a root canal because the trauma is short-lived, minimizing painful stimulation of the central nervous system.

What can you do to maintain good dental hygiene when it hurts too much to brush your teeth?

Dr. Langan: Ask your dentist to prescribe a topical anesthetic called viscous lidocaine and use it to numb your mouth. If that doesn't help, try a prescription mouth rinse called Peridex, an oral antibiotic. It can sometimes stain the teeth, so wipe off your teeth as best you can. Drink only lukewarm fluids to keep from stimulating the nerves in your mouth. When the pain flare-up is over, remember that if you have TN, good dental hygiene means having your teeth cleaned by your dentist at least twice a year.