TRIGEMINAL NEURALGIA

Dr R L Melvill. FCS SA (Neurosurgery)

Trigeminal Neuralgia occurs as an intense lancinating pain which shoots into the face. The pain may occur in a fairly small area of the face or it may spread rapidly over a fairly wide area, but is always confined to the face. (That is, to the distribution of the Trigeminal nerve.) Pain which spreads across the mid-line, over the back of the scalp or into the neck is not consistent with Trigeminal Neuralgia. Trigeminal Neuralgia very rarely may occur in both sides of the face.

The pain occurs suddenly as a brief episode usually lasting a few seconds at a time, sometimes lasting up to a minute before it passes, to return moments later in the same fashion. These brief episodes may thus be repeated over and over again for a long time as an attack of Trigeminal Neuralgia or may occur in isolation as a single episode. The attacks of pain may be set off by minor everyday events such as a light touch to a "trigger area" which the patient soon learns to avoid. Often talking, eating, drinking, brushing teeth or shaving will set off an attack of pain, even a gentle draught on the face may be enough to send the patient into yet another agonizing attack of his affliction. It is difficult to measure pan, but many will agree that Trigeminal Neuralgia can be the worst pain known to man or woman.

The attacks of pain may return at frequent intervals, and this may persist as an episode of Trigeminal Neuralgia lasting weeks or months, then, for no apparent reason, the condition subsides, leaving the patient free of pain for months or even years before it returns to reproduce the same pattern of events. A patient who has had Trigeminal Neuralgia can expect that it will one day return if left untreated. Over time the attacks tend to become more frequent and last longer until the patient finds himself in a state of perpetual agony, be it the agony of an attack or the agony of the fear of the next attack which he has learned will surely come.

Early in the progress of the condition, the periods between the episodes of pain are pain freer as time goes on however the patient may be left with a dull ache or burning sensation in the face which is continuous.

Other Causes of Facial Pain

There are many causes of facial pain which must be distinguished from Trigeminal Neuralgia if the patient is to be correctly treated. These include diseases of the facial structures such as the sinuses, teeth, jaw and the eye. Tumours in the face and base of skull and vascular conditions causing face pain must, be considered and excluded when seeing a patient with presumed Trigeminal Neuralgia.

The patient presenting with facial pain which is presumed to be Trigeminal Neuralgia should therefore undergo a thorough examination which may include assessments by a number of specialists. (By the time the patient sees the neurosurgeon he has often "done the rounds" seeing dental specialists, ear nose and throat specialists and others.)

Causes of Trigeminal Neuralgia

The pain of Trigeminal Neuralgia is caused by a disturbance in the normal function of the nerve which carries sensation from the face to the brain. (The Trigeminal Nerve.) The reason for the disturbance in function may not be immediately apparent, and even after tests have been carried out to demonstrate the nerve in its passage from the face to the brain there is often doubt as to the reason for the pain. It is this inability to demonstrate a cause which has led to many a controversy concerning the management of the condition. In the 1930s, Dr Waiter Dandy, a pioneering American Neurosurgeon noted the frequent occurrence of a blood vessel in close proximity to the point where the Trigeminal nerve enters the brain. It was not until the operating microscope became a standard tool in the neurosurgical operating room in the 1960s that Dr Jannetta popularized the idea that a blood vessel kinking the nerve could be the cause of the pain.

TREATMENT OF TRIGEMINAL NEURALGIA

Medical Treatment

Carbamazepine

This is the drug of choice in the treatment of Trigeminal Neuralgia. In the early stages of the disease this drug is effective in controlling the pan in as many as 80% of cases. However as the condition progresses the effectiveness of the drug reduces and finally it may have little beneficial effect.

Baclofen

When Carbamazopine is ineffective or cannot be tolerated by the patient, Baclofen may be tried, either alone or in combination with Carbamazepine.

Other medications

Penytoin, or other anti-epileptic type medications can be tried under the direction of a neurologist.

Comment

If the medication prescribed for the patient is effective and well tolerated there should be no need to pursue any other course of action. It is tragic however to see people suffering from the pain of Trigeminal Neuralgia who are consuming large quantities of medication which has become ineffective and is causing intolerable side effects. Continuing in this manner year in and year out may not be necessary, there is the option of effective surgical treatment.

Surgical Treatment

Surgical treatment of Trigeminal Neuralgia is indicated when the medical treatment no longer controls the symptoms to the patient's satisfaction or when the side effects of the drug therapy become intolerable.

Surgical Options

The two broad categories of surgical treatment are:

1. Interference with nerve function
2. Decompression of the nerve

Interference with Trigeminal nerve function

The target for these procedures on the Trigeminal nerve is the Gasserian Ganglion, situated at the point on the nerve where it divides into its three main divisions. This is located at the base of the skull, close to the point where the branches of the Trigeminal nerve leave the skull to enter the deep structures of the face. It is possible to pass a probe through the face and into the Gasserian Ganglion via one of the apertures in the skull through which one of the divisions pass. The Gasserian Ganglion can then be damaged by applying a radiofrequency current, injecting a substance such as glycerol or compressing the ganglion using a specially designed balloon device. These destructive procedures interfere with nerve conduction and thus reduce the amount of pain experienced by the patient. The initial results of these destructive procedures are encouraging but there is a significant group of patients who experience a recurrence of symptoms as time passes.

Microvascular Decompression of the Trigeminal Nerve

Following the observations of Dr Jannetta the operation of Microvascular Decompression of the Trigeminal Nerve has become popular. In this operation the neurosurgeon approaches the point where the Trigeminal nerve enters the brain (the root entry zone) directly, using an operating microscope, through a small opening he has made behind the ear on the affected side. He searches for, and nearly always finds, a blood vessel (usually an artery, but it could be a vein) close against the nerve, kinking the nerve. It is presumed that the physical kinking of the nerve by the offending blood vessel has a part to play in causing the Trigeminal Neuralgia. The vessel is very carefully separated from the nerve thus "unkinking" or decompressing the nerve. It is important to be sure that the separation of the vessel and nerve is maintained so as to reduce the chance of the condition recurring

Comment

I believe that Microvascular Decompression of the Trigeminal Nerve is the procedure of choice in the surgical treatment of Trigeminal Neuralgia.