

TRIGEMINAL NEURALGIA

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Trigeminal neuralgia (TN) is a condition characterised by severe facial pain which in certain cases may seriously affect patients' quality of life. Effective management of this condition is possible and involves medical, interventional and surgical modalities. (*SA Fam Pract* 2004;46(2): 43)

Summary

TN has as its distinguishing feature severe, lancinating, shock-like paroxysms of pain occurring in the territory of the face supplied by the trigeminal nerve. In nearly half of all cases the pain is in the distribution of the infra-orbital division of the trigeminal nerve. With time the pain tends to spread to other divisions of the trigeminal nerve and increase in severity. The condition is more common in women than in men and is found most often in middle-aged and elderly individuals. Although the condition is seen in younger individuals its occurrence in young people should raise the suspicion of associated disseminated sclerosis.

The onset of the pain is as unpredictable as the distribution is constant and the pain may be brought on by eating, shaving, washing the face or even by a cold breeze on the skin. During an attack there may be flushing of the face and watering of the eye.

Physical signs may include the patient presenting with a scarf or bandage around the face in an attempt to prevent attacks. Patients may also present with the face dirty or unshaven through fear of triggering further attacks. Often there may be a history of having undergone (unnecessary) dental procedures in an attempt to alleviate the pain.

Opinions differ as to whether patients with TN show sensory change in the trigeminal nerve territory; at most the sensory change if present would consist of a subjective decrease in sensitivity to pin prick; corneal reflexes are usually normal.

A number of aetiological conditions exist, the most common cause of TN is

compression or distortion of the sensory root of the trigeminal nerve by an artery or vein. Other causes may include acoustic neuroma (vestibular schwannoma) or meningioma of the cerebello-pontine angle, giant aneurysm, dermoid cyst and multiple sclerosis.

The diagnosis is usually made on clinical grounds but an MRI of the brain may demonstrate multiple sclerosis, tumours or vascular abnormalities.

Treatment options include medications, various ablative procedures and microvascular decompression (MVD).

Treatment/management protocol

Pain in the face may arise from a number of different disorders including:

- Postherpetic neuralgia (usually first trigeminal division, pain dull, persistent).
- Atypical facial pain (diffuse, dull, persistent).
- Dental pain (around mouth, dull).
- Sinusitis (frontal or maxillary, sharp, worse in morning).
- Cluster headaches (above / behind eye, sharp, associated lacrimation/rhinorrhoea).

TN may be distinguished from these conditions by the following features: the pain is sharp, lancinating and paroxysmal, occurring in any of the three trigeminal divisions (but affecting infra-orbital most frequently) with no neurological deficit other than occasional blunting of pin-prick sensation.

When the diagnosis has been made on clinical grounds an MRI of the brain/posterior fossa should be performed to exclude acoustic neuroma,

meningioma or multiple sclerosis.

Initial treatment consists of carbamazepine (Tegretol/Æ) 200 mg tds, which may be increased to 1 600 mg/day or where toxic symptoms such as drowsiness and ataxia intervene. Other medications that may be of benefit are phenytoin (Epanutin/Æ) or clonazepam.

Surgical treatment of this condition includes the following options:

- Microvascular decompression
- Peripheral ablative procedures (e.g. infra-orbital root avulsion)
- Alcohol/phenol or glycerol injection into the trigeminal ganglion
- Radiofrequency thermocoagulation.

It is the opinion of numerous experts that primary trigeminal neuralgia is caused by tortuous blood vessels in the posterior fossa pressing against the fifth cranial nerve. As such the neurosurgical procedure of microvascular decompression not only makes sense, but indeed provides the best results without having to destroy nerve tissue (success rates of 84-90% quoted).

The condition of TN can be very severe and debilitating and the correct diagnosis and efficient treatment invariably leads to a very relieved and satisfied patient.

References

1. Youmans JR (ed). *Neurological Surgery*. Fourth Edition WB Saunders: Philadelphia, 1996.
2. Lindsay, Bone and Callander. *Neurology and Neurosurgery Illustrated*. Second Edition. Churchill Livingstone: London, 1991.



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