

TRIGEMINAL NEURALGIA

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What is it?

Trigeminal neuralgia is a severe disabling facial pain syndrome. It is a severe electric shock-like pain in the distribution of the trigeminal nerve branches. The pain is nearly always unilateral.

How does the patient present?

Patients present to us with severe unilateral facial pain. It could be in V1 (ophthalmic), V2 (maxillary) or V3 (mandibular) distribution, or a combination. Usually there are no other neurological symptoms. If the characteristics of the pain do not match the classic description, the pain could be one of a number of facial pain syndromes, which may still be amenable to treatment.

Usually the clinical examination is unremarkable. If there are other neurological findings or deficits, then it may be pain as part of another diagnosis such as multiple sclerosis.

Another common presentation is via multiple dental or oral surgery visits. The pain can sometimes be mistaken for dental pathology.

What causes it?

There are numerous causes responsible for trigeminal pain, depending on the type of pain including: trigeminal neuralgia, painful trigeminal neuropathy, post traumatic, post herpetic pain, and other craniofacial pain and headache syndromes.

Here we focus on trigeminal neuralgia. The most common cause is neurovascular contact or compression at the trigeminal root entry zone close to the brainstem. It is usually a branch of the superior cerebellar artery. The exact mechanism of pain generation is however poorly understood.

Does it need investigation?

The most comprehensive initial imaging investigation is a high resolution MRI. Firstly, this serves to exclude unusual causes such as a tumour or the presence of multiple sclerosis. Secondly, it often allows visualisation of neurovascular contact or compression at the trigeminal root entry zone, although sensitivity is limited.

How should we treat it?

Even before further investigation with MRI, we can start with treatment. In general we can start with medical therapy and consider surgical options if refractory to medication analgesia. It is worthwhile considering a surgical review to discuss the options early to provide patients with information and choice. Of the medication analgesic options, carbamazepine is the usual recommended first line treatment. Often there is a dramatic cessation of pain. Once further analgesics are required, their efficacy is limited. Over time we may need to increase the carbamazepine dose as the pain may become refractory to the current dose. If the pain become resistant or the side effects of carbamazepine become intolerable, then there are limited choices available with regards to medical therapy and surgical treatment is appropriate.

The first consideration would be for surgery to address the microvascular compression. This procedure is a microvascular decompression surgery which has longlasting efficacy. Other procedures included percutaneous options to address the trigeminal nerve at the skullbase. Various techniques of trigeminal rhizotomy involve a short <1 hour procedure to damage the nerve. Options include glycerol, radiofrequency or balloon rhizotomy. Radiosurgery with the gamma knife has proven efficacy for those patients in whom an anaesthetic is high risk, however currently there is no gamma knife in New Zealand. Further options then exist for treatment resistant trigeminal neuralgia and other facial pain syndromes including sensory rhizotomy, nucleus caudalis dorsal root entry zone lesion as well options for neuromodulation.

Generally once we have seen a scenario of trigeminal neuralgia we are unlikely to forget it, neither its characteristics nor its severity. After starting with carbamazepine, a discussion of surgery is worthwhile to give patients a range of treatment options, which can be selected for each individual, depending on patient characteristics.