

TRIGEMINAL NEURALGIA

Trigeminal neuralgia is a disorder of nerves characterized by intense pain in face. The disorder is very common and is seen in 1 out of 15000 people. It is more common in females than males. It is seen more commonly in people over the age of 50 years.

Trigeminal nerve is the fifth cranial nerve and supplies the face. It has three sensory nerves called ophthalmic, maxillary and mandibular divisions which supply the sensation of touch and pain from the face. The ophthalmic segment supplies the forehead region, maxillary division supplies cheek and nose whereas the mandibular division supplies lower jaw. The fourth division is the motor nerve which supplies the muscles of chewing and mastication.

The disease is characterized by intense, lightning electric shock like facial pain that lasts for a few seconds. Usually the pain is common in the maxillary and mandibular divisions of the nerve. Usually there are triggering factors for the pain like touching or air currents or eating cold objects or shaving or brushing teeth. Attacks of pain can last for few seconds to few minutes and can recur many times in a day. The intermittent attacks of pain and the unpredictability of when the pain occurs results in a significant deterioration in the quality of life. Usually the pain is restricted to one side of the face but rarely can be bilateral. Pain attacks worsen in frequency and severity over time. The pain is so severe that occasionally patients are forced to commit suicide and hence is also known as suicide disease.

The exact cause of trigeminal neuralgia is still unknown. Usually there is an artery or vein in close proximity to the trigeminal nerve at the site of origin from the brain stem. It is hypothesized that because of continuous pulsations of the vessel over the nerve the nerve gets irritated and pain is experienced on the face. The reason why a trigger point elicits the pain or why the pain is not present continuously is not known. Sometimes the pain is precipitated by a dental procedure.

The diagnosis of the disorder is mainly by clinical means. Special sequences of MRI may demonstrate the vascular loop on the nerve.

The first line of management of this disease is by medicines. Carbamazepine is the drug of choice. Other drugs like baclofen, lamotrigine, phenytoin, duloxetine etc are used. Medicines are usually quite effective in controlling the pain but long term reliefs are seen only in 50-60% of individuals.

Different types of surgery are advocated for the relief of pain. The most definitive surgery is called Microvascular Decompression. This surgery is performed with the help of microscope or endoscope and involves making a small incision behind the ear on the affected side and separates the nerve and the vessel. The procedure is effective in more than 90% of individuals. Patients usually can go back to normal work within a few days of surgery. Other surgical options like injection of alcohol into the ganglion or radiofrequency ablation of the trigeminal ganglion are performed but the success rate in these procedures is around 60% and long term recurrences can be present. Peripheral neurectomy is performed in elderly individuals who are not fit for general anesthesia but the recurrence rate in these procedures is high.

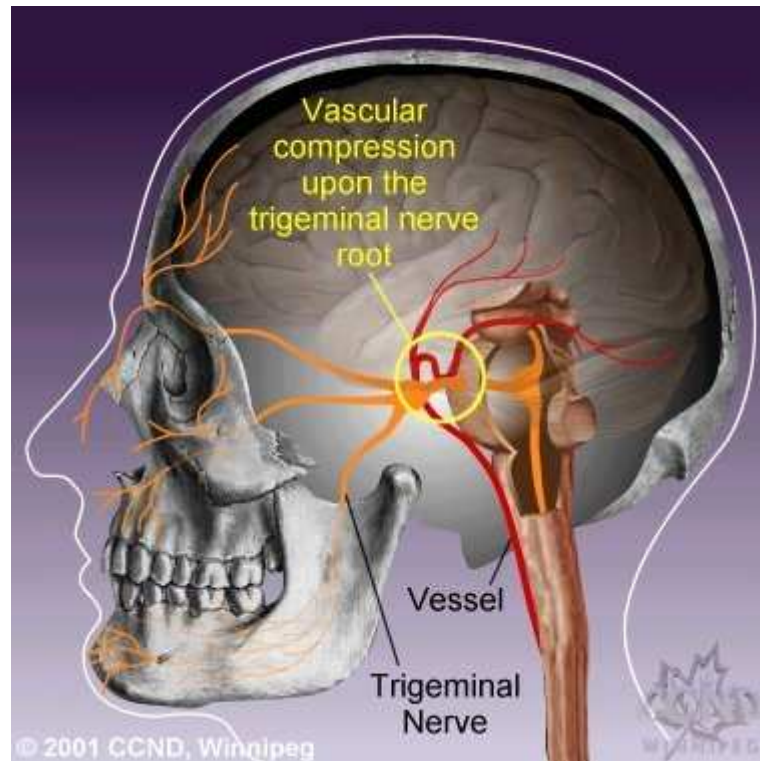


Fig 1 shows the three sensory branches of the trigeminal nerve and the vessel in proximity to the nerve.

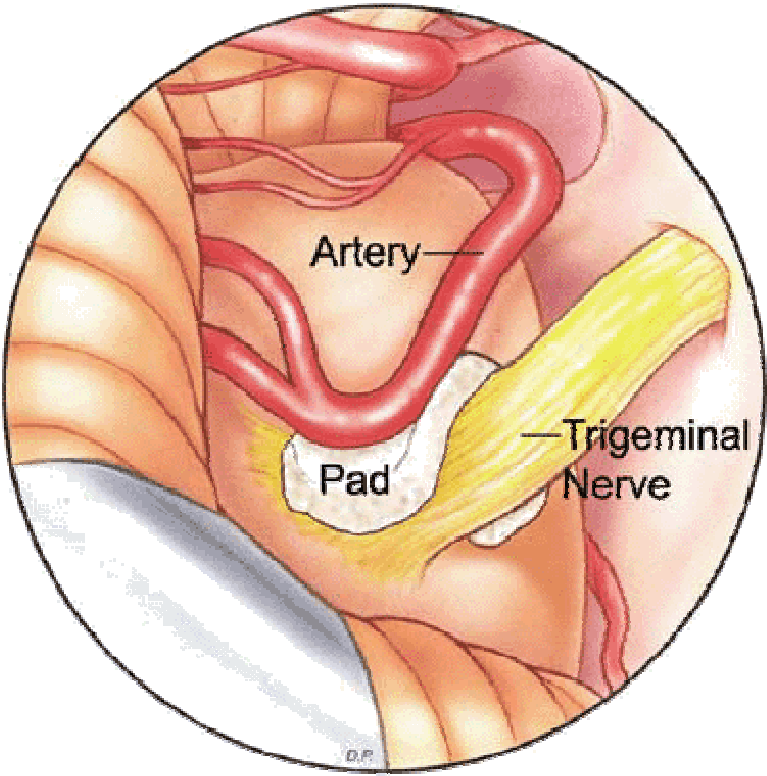


Fig 2 Procedure of microvascular decompression where an inert material is placed in between the nerve and the blood vessel