Trigeminal Neuralgia

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Trigeminal neuralgia is a disorder of severe, brief and electric shock like recurrent episodes of facial pain. It is characterized by pain in the sensory distribution of trigeminal nerve. Its incidence is 4 per 100000 population per year.
Trigeminal neuralgia can be divided into classical and symptomatic forms. Classic form is considered idiopathic. It is actually caused by close contact of trigeminal nerve and superior cerebellar artery. Symptomatic form is caused by arteriovenous malformation, aneurysm and pontine infarct. Compression by tumors at cerebello-pontine angle, pontine glioma, gliobastoma, metastasis and lymphoma can also lead to trigeminal neuralgia. Other causes of symptomatic form include multiple sclerosis, sarcoidosis and trauma.
Trigeminal neuralgia presents with pain in the distribution of any branch of trigeminal nerve. Pain is typically paroxysmal, severe and lancinating in character. It lasts for a few seconds to two minutes. Pain episodes can occur once in a day to hundreds per day. Pain is precipitated by sensory stimuli in the distribution of trigeminal nerve like chewing, talking, smiling, drinking cold or hot fluids, touching, shaving, brushing teeth and blowing the nose. Exposure of face to cold air can also precipitate pain.
Diagnosis of trigeminal neuralgia can be made easily by history alone. Physical examination in classic form is normal. Strict criteria for trigeminal neuralgia as defined by the International Headache Society are as follows:

A. Paroxysmal attacks of pain lasting from a fraction of a second to 2 minutes, affecting 1 or more divisions of the trigeminal nerve and fulfilling criteria B and C
B. Pain has at least 1 of the following characteristics: (1) intense, sharp, superficial or stabbing; or (2) precipitated from trigger areas or by trigger factors
C. Attacks stereotyped in the individual patient
D. No clinically evident neurologic deficit
E. Not attributed to another disorder

Treatment of trigeminal neuralgia is pharmacological as well as surgical.
Carbamazepine is the drug of choice. Other drugs include oxcarbazepine, lamotrigine, phenytoin, gabapentin, baclofen, clonazepam and valproic acid.
Surgical options include microvascular decompression and percutaneous procedures like radiofrequency trigeminal gangliolysis, retrogasserian glycerol rhizotomy, and balloon microcompression.
Gamma knife surgery is actually targeted radiation of trigeminal nerve roots. It is comparatively less invasive and has good results.

Key words: Trigeminal nerve, trigeminal neuralgia, Facial pain, Microvascular decompression, Rhizotomy, Gamma knife surgery

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