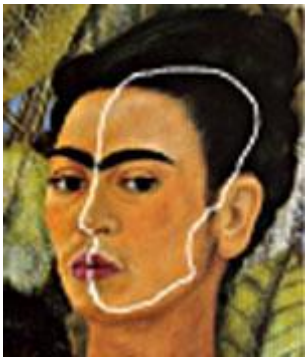
Trigeminal Neuralgia (TN)

TN is caused by irritation of the trigeminal nerve at its origin. Over 95% of cases are due to blood vessel compression. The rest are either from tumour around that region, or from demyelinating disease such as multiple sclerosis.



Typical presentation: lightning like pain affecting any spot or area on one half of face. Some points are highly sensitive to touch, shaving, eating, talking or even wind blowing. These are called trigger points. Attacks of pain come in clusters. There may be bad times and not so bad times. In severe cases, patients may be undernourished, suffering from poor dental hygiene, and assume a rather unkempt appearance (cannot shave).

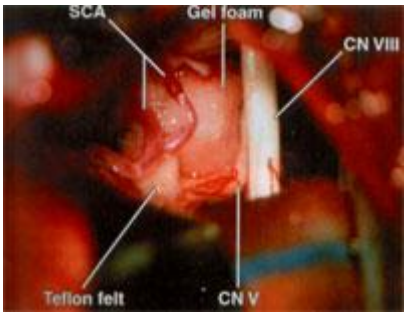
Medical treatment is usually highly effective. If not, the diagnosis may be wrong. Most patients will respond to Tegretol, an anti-epileptic. Dosages varies individually but may escalate with time. Other medications have been tried and claimed relief: Dilantin, Neurontin, etc.

About 10% of patients' symptoms become refractory to drugs in the course of time, usually 5 to 10 years. To provide pain relief, there are several options to consider:

1. Percutaneous Procedures

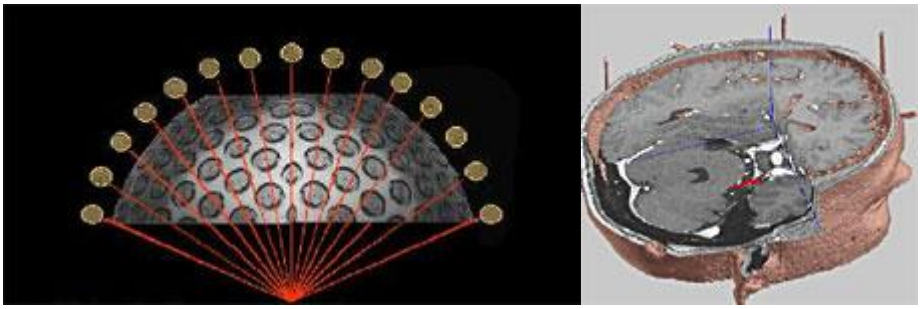
The trigeminal nerve is located by passing a long needle through the face towards the skull base and is either destroyed by heat (radiofrequency), sclerosing agent (Glycerol or alcohol), or compressed by a small balloon. All these procedures can be uncomfortable. But in experienced hands, ~90% pain relief can be achieved. The downside is: pain recurrence is high and repeated procedures are often required. In addition, the incidence of facial numbness is higher than other treatment modalities.

2. Microsurgery



The procedure is called microvascular decompression (MVD). It is a major complex surgery involving general anaesthesia, opening of skull, retraction of brain, exposure of the trigeminal nerve at its origin from the brain stem, finding the offending blood vessel and relieving the nerve from direct irritation by the offending artery or vein. In expert hands, MVD is the most effective method to achieve immediate pain relief. Facial numbness is rare, although some patients experience deafness, and or facial weakness as a result of excessive retraction of the cerebellum. MVD also carries a small but definitive death rate: 0.5 to 1% even in best hands. Since majority of TN patients are older than 60 and may have other medical problems such as heart disease, hypertension, diabetes mellitus, etc, MVD may not be so desirable from patient's perspective.

3. Gamma Knife Surgery



The target is the same as in MVD, except that the procedure is non-invasive. The success rate is at 90%, slightly lower than MVD. It also takes longer (average 1 months from

time of treatment) to achieve pain relief. However, there is no fear of operative death or dreadful complications such as facial paralysis or deafness, and may well be the treatment of choice in elderly or medically unfit patients.

TN caused by tumours are best treated by any effective measure against the tumour, usually by microsurgery or Gamma Knife.

TN caused by multiple sclerosis may also respond to Gamma Knife surgery even though the results are usually less favourable.