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## CASE STUDY

### TRIGEMINAL NEURALGIA: AN UNUSUAL CASE ASSOCIATED WITH CPA ARACHNOID CYST

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#### ABSTRACT

Trigeminal neuralgia (TN) or Tic Doloureux or prosopalgia is a neuropathic disorder of the trigeminal N that causes episodes of intense pain in the eye, lip, nose, head & jaw. TN usually develop after the age of 50 years, reported case patient with 28 years old female, complaining from severe lancinating intermittent pain, not relived by tegretol, caused by CPA arachnoids cyst which causes pressure on trigeminal ganglia in the pons,

**Treatment:** tegretol 100mg 1x3 to relieve sever lanceting pain the pain is not response to the medication and finally we decided to do ARhizotomy or neurectomy to the trigeminal nerve ending put the patient refuse the treatment

**Discussion:** Any case of TN which lacks the typical feature of idiopathic case must be imaged like:

1. Young age groups
2. Abnormal finding in the trigeminal nerve examination like sensory defecate
3. long lasting episodes of pain and associated other cranial nerve palsied in the CPA like the 8<sup>th</sup>, 7<sup>th</sup> and 10<sup>th</sup> cranial nerve
4. TN not responding to the usual medical treatment and associated with any abnormal neurological findings in the examination

**Conclusion:** The trigeminal neuralgia mostly occur in old age so any young patient with sign and symptom of TN, CT or an MRI is indicated to excluded brain abnormality or any pressure on the 5<sup>th</sup> cranial n or its ganglia

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## INTRODUCTION

Trigeminal neuralgia is a chronic pain condition that affects the trigeminal nerve, which carries sensation from your face to your brain. If you have trigeminal neuralgia, even mild stimulation of your face such as from brushing your teeth or putting on makeup may trigger a jolt of excruciating pain (Brain, 2001). The pathogenesis of trigeminal neuralgia is uncertain. The disorder typically is idiopathic but may be due to a structural lesion (Bagheri,2004).The presumed cause of TN is compression on the Trigeminal N as it exits the brainstem by tumor, cyst, blood vessels or bone .This compression causes the wearing away of the protective coating around the N(myelin sheath) TN may be part of the normal aging process as blood vessels lengthen they can come to rest &pulsate against a n, this deterioration of myelin causes the nerve to send abnormal signals to the brain (Chole, 2000), Trigeminal neuralgia symptoms are sudden, severe, painful, stabbing or electrical like shock in the face (Naill, 2009).

Diagnosis: There is no single test for diagnosis of TN, Diagnosis is generally based on the patient's medical history. Physical exam and through neurological examination are done by a physician (Fardy, 1994). Because similar symptom can occur due to tumor, arteriovenouse malformation or multiple sclerosis, An MRI scan with and without an injected contrast dye is essential to diagnosis TN (Kennedy, 1929). Treatment in general many options include: Medicines, surgery and complementary approaches

## CASE REPORT

A 28 year old single female, attended to the Maxillofacial Department in AL-Zahraa teaching Hospital, wassit, Iraq, complaining from right side facial pain. The pain was intermittent with attack of sudden lancinating (like electric shock) with devastating intensity lasting only few seconds, Some time the complain was coming in attacks of multiple severe pain one after the other & sometimes the plain was continuous and experienced in both maxillary and mandibular divisions. The painful attack is unilateral and is at right nasolabial area, induced by eating, speaking &cold weather,

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The pain not relieved by drugs, not associated with vomiting, no history of hyper tension or diabetes mellitus no history of smoking, no alcohol consumption no trauma, no familial history, no history of visual disturbances and no history of face surgery, the pain interfere with her job. The consultation was done with neurosurgeon, during clinical examination it's found that the patient looks tense and anxious.

Neurological examination of the cranial n found no sensory loss at the trigeminal distribution the motor and sensory examinations are normal, general examination: the pulse 70/beat per min, blood pressure 110-70; medical examination is normal; no meningeal or cerebellar sign MRI brain show well defined 4x5 cm homogenous CSF signal (high T2, low T1 and it disappeared on flair) cyst occupying left cerebello-pontine angle & extending to midline and into quadrigeminal cistern displacing brainstem (both mid brain & pons) forward and to the right side and cerebellum downward, compressing the 4th ventricle causing mild triventricular (3rd & both lateral) hydrocephalus & showing no significant peri focal edema or contrast enhancement, picture goes with CPA arachnoid cyst with pressure effect on adjacent structure including origin and ganglia of left trigeminal N brainstem looks slightly compressed and displaced but no abnormal signal intensity is seen

### Treatment

Treatment trigeminal neuralgia in general options include: Medicines, surgery and complementary approaches (S.M Agrawal, 2011)

#### 1. Medicines include Anticonvulsant

- Tegretol (carbamazepine) typically is used as the drug of choice, Complete or acceptable relief occur in 69%, (if 600-800 mg are tolerated) If no relief diagnosis of trigeminal n is questioned or suspicious.
- Baclofen (Lioresal) is not as effective as carbamazepine, but it has fewer side effect; it may be more effective if used in conjunction with low dose carbamazepine.
- Gabapentin (Neurontin) is an anticonvulsant that may act synergistically with carbamazepine & baclofen; side effect include ataxia, sedation & rash. The treatment starts with 100mg at bed time, titrate to 5-7mg per kg daily (Nail, 2009).
- Miscellaneous drugs: capsaicin, clonazepam, Lamotrigine (Chole, 2007)

2. Other treatment neurosurgical procedure for severe cases: severing the trigeminal n roots) Neurectomy- V1 at supraorbital, supratrochlear and infra orbital - V2 at foramen rotundum - V3 block at foramen ovale (Nail, 2009)

3. Microsurgical decompression of the trigeminal n found to be impinged on by blood vessel or bone protuberance, complete section of the nerve proximal to the ganglia (Bagheri, 2004).

A Rhizotomy: is procedure in which selective nerve fibers are destroyed to relieve pain, Rhizotomy for TN causes some degree of permanent sensory loss and facial numbness: several form of rhizotomy are available to treat TN as: a-balloon compression b-local block (phenol, alcohol) c-glycerol

injection into meckels cave possible lower sensory loss and anesthesia dolorosa c-Radiofrequency thermal application (thermaocoagulation) d-stereotactic, radiosurgery (Fardy, 1994). Our patient was treated by tegretol 200mgx3 daily plus lamotrigin once daily and the pain is not relieved and uncontrolled. In addition the patient refuse the other method of treatment like neurosurgical or rhizotomy

### DISCUSSION

Any case of TN which lacks the typical feature of idiopathic it must be imaged like:

- Young age groups
- Abnormal finding in the trigeminal nerve examination like sensory deficit
- long lasting episodes of pain, and associated other cranial nerve palsied in the CPA like the 8th, 7th, and 10th cranial nerve
- The pain not responding to the usual medical treatment and associated with any abnormal neurological findings in the examination

### Conclusion

The age distribution of TN is usually in older individual between 5th- 6th decade of life. In our case the patient is young in the second decade of life with TN due to CPA arachnoid cyst which is an unusual case. Any young patient with TN must do CT or MRI of the brain to exclude compression of the 5th cranial n by tumor or cyst.

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