A case of facial pain

Dr Esther Pang
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History

- F/65
- History of hyperlipidemia
- Presented with left facial pain for 3 years
- With radiation to left eye, mandible and left upper neck
- On and off electrical shock like pain, last from seconds to mins
- Triggered by light touch, chewing
- Seen by A&E, prescribed with Gabapentin and pain improved after

History

- Important negatives:
    - No headache
    - No abnormal nasal discharge
    - No toothache
    - No vision change
    - No constitutional symptoms

Physical examination

- Mild tenderness on light touch of left facial region, especially at cheek
- Mild tenderness at TMJ region, no tenderness on masseter/temporalis muscle
- No trismus
- No congested eyes
- Mouth, throat clear, no dental caries
- No Cervical lymph nodes palpated
- Nose clear, no abnormal discharge seen at middle meatus
- No focal neurological signs

Investigations

- Attended private doctor with the following investigations done:

- WCC normal, ESR 28 , CRP 2.4

- Rheumatoid factor -ve, ANA -ve

Investigations

- CT neck with contrast:

- No osteomyelitis/bony lesion in maxilla or mandible or dental related bone changes

- Mild left maxillary sinusitis without obstruction at left ostiomeatal unit

- Small focal consolidation with air bronchogram in right upper lobe and small focal ground glass change in left upper lobe, infective /inflammatory in nature, though adenocarcinoma cannot be entirely excluded. Suggest FU CT for monitoring

- Idea: Think she has some kind of “nerve” problem, as informed by the A&E doctor

- Concern: Her facial pain may be related an undiagnosed sinister disease

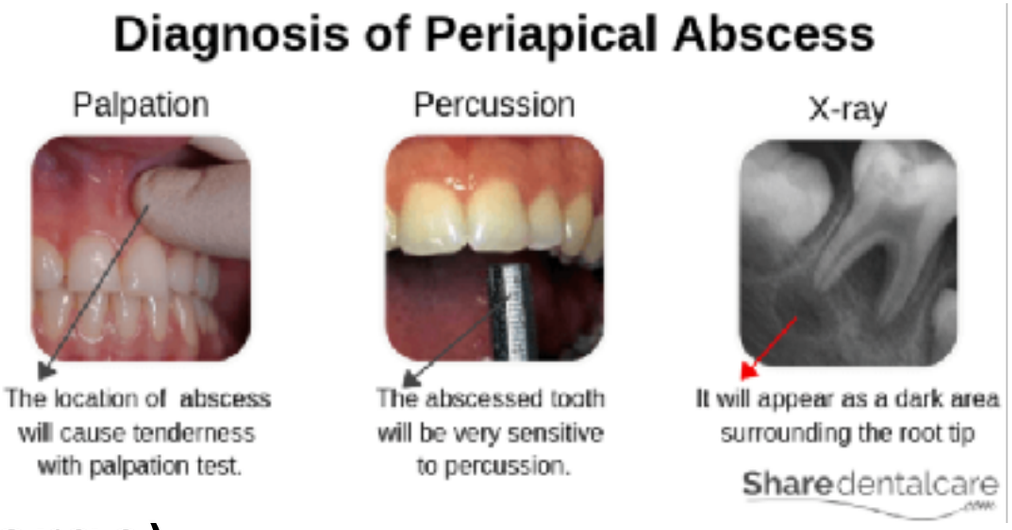
- Expectation: To be prescribed with gabapentin before her ENT & respiratory clinic appointment in 4/2020

- Explained to patient the previous investigation findings
- Start amitriptyline 10mg nocte (ECG showed no evidence of heart block)
- Plan FU in 13/52 to see response

Discussion

Probable diagnoses

- **Dental pain** (pain won't cross midline)
  - Caries (pain associated with <u>thermal</u> change)
  - Periapical abscess-> osteomyelitis
  - Fractured tooth



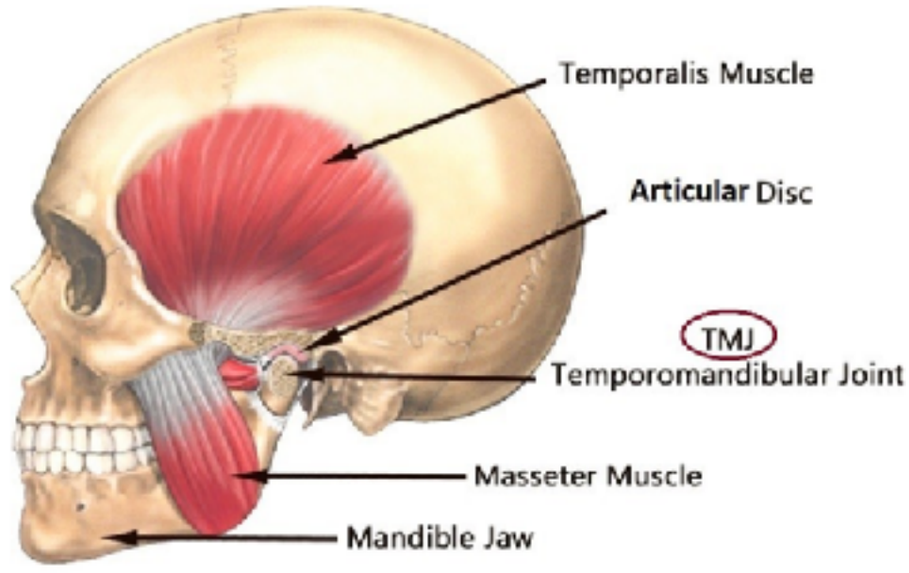
- **Maxillary/frontal sinusitis** (nasal discharge)
- **Temporomandibular joint (TMJ) Dysfunction**

Probable diagnoses

- **Temporomandibular joint (TMJ) Dysfunction**

  - Pain localized to region of ear & mandibular condyle

  - May radiate to cheek & even neck



  - Pain is associated with **jaw movement**

  - **Limitation of mandibular movement**

  - **Tenderness at TMJ region**

Palpation of TMJ's lateral and posterior aspects

Other diagnoses

Migraine variants	Facial migraine, chronic paroxysmal hemicrania, cluster headache
Cranial nerve neuralgias	**Trigeminal neuralgia** Glossopharyngeal neuralgia (CN9, 10)
Salivary gland disease	infection, calculus, obstruction, cancer
Eye disorders	Glaucoma, iritis, optic neuritis
Neoplasms	mouth, nasopharynx, tonsils, tongues, larynx
Others	Temporalis arteritis, depression, cervical spondylosis, post-herpetic neuralgia

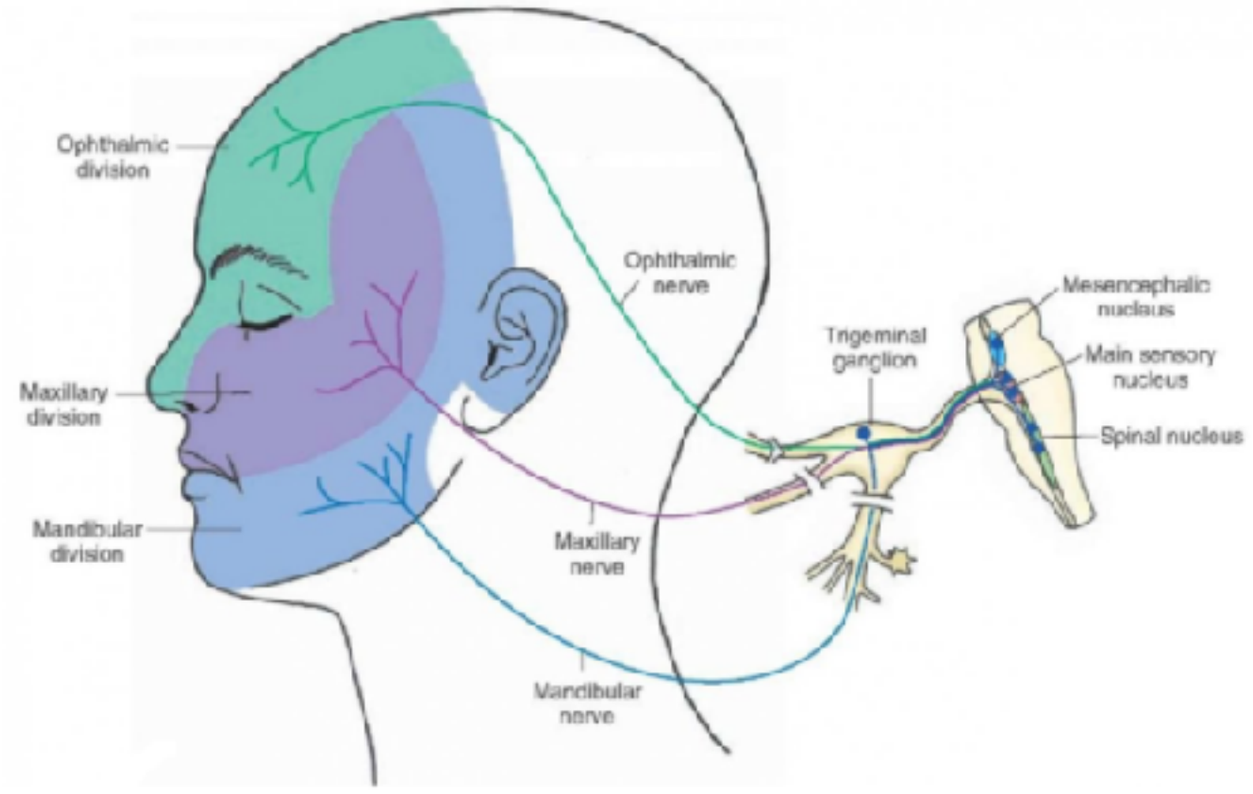
Trigeminal neuralgia

Epidemiology

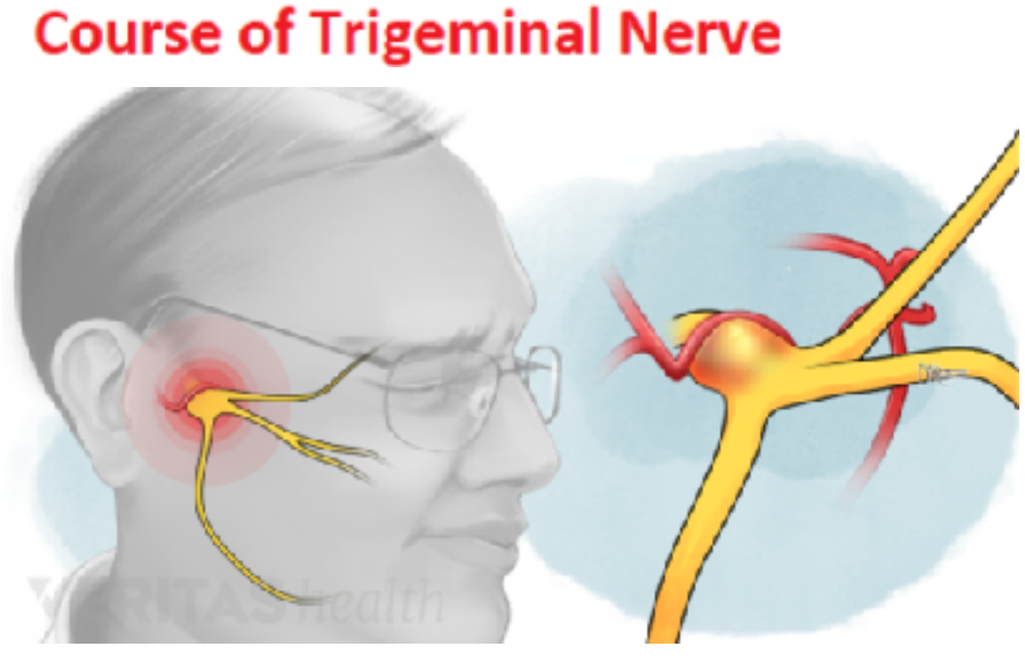
- Rare condition (annual incidence 4-13 per 100,000 people)
- Male: Female 1:1.5-1:1.7
- Most cases begin after 50 y/o
- Most are sporadic cases
- HT/Migraine may be a risk factor

Etiology

- Compression of trigeminal nerve root (80-90%)
  - By an aberrant loop of an artery or vein



- Compression by acoustics neuroma, meningioma, epidermoid cyst or atrioventricular malformation



Pathogenesis

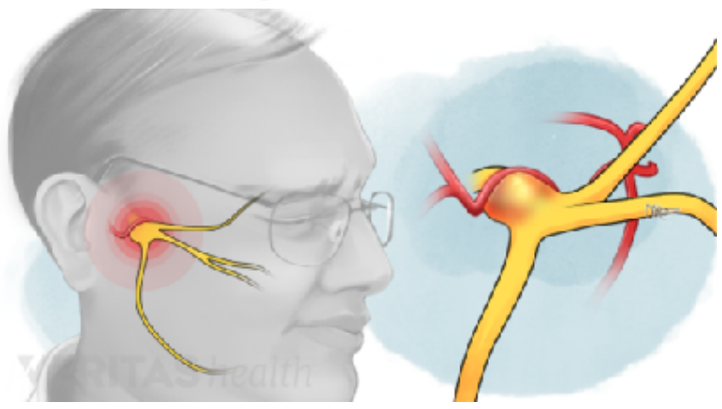
- Compression of the nerves lead to **demyelination** in a circumscribed area around the compression

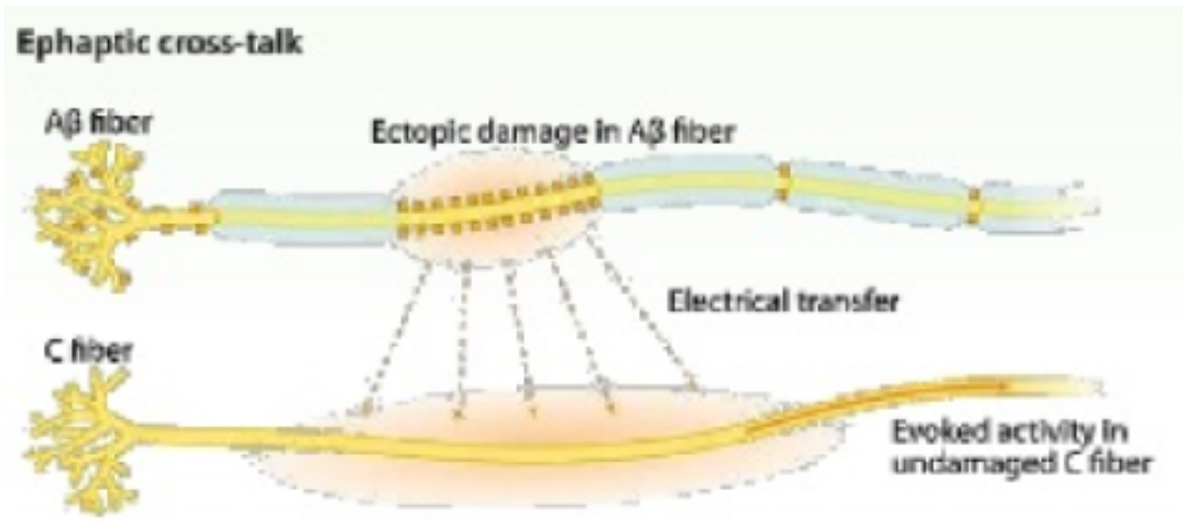
- Demyelinated lesion set up **ephaptic transmission**

- Ephaptic cross-talk between fibers mediating light touch and those involved in pain generation

  - Light touch stimulation of facial trigger zone

  - Can lead to painful attacks





Classification

- International Classification of Headache Disorders (ICHD-3)

Classic Trigeminal neuralgia (TN)	Encompasses cases related to **vascular compression** (Not count as secondary as most patients do not have surgery to have to proof the “cause”)
Secondary	Underlying causes: - Multiple sclerosis - A tumor along the trigeminal nerve - Neurosyphilis
Idiopathic	No MRI/electrophysiological test show evidence of causes

Clinical features

- Site: sensory branches of trigeminal nerve (unilateral)
- Radiation: mandibular & maxillary division, rarely to ophthalmic division
- Quality: excruciating, searing jabs of pain like burning knife or electrical shock
- Duration: seconds to 1-2 mins (up to 15mins)
- Frequency: variable, no regular pattern
- Associated features: rarely occurs at night

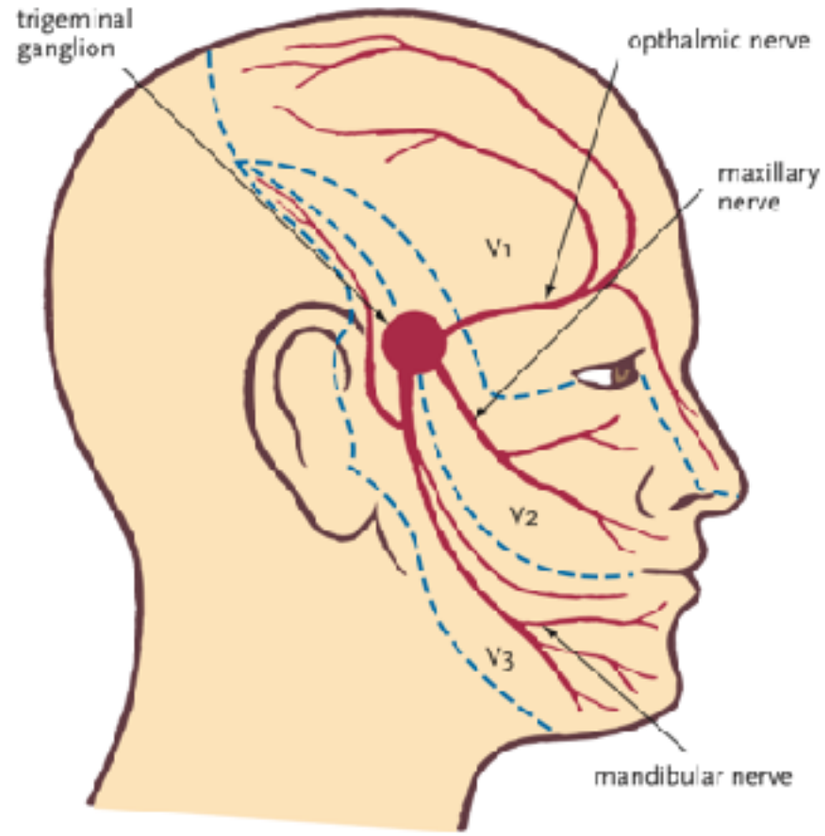


FIGURE 53.5 Typical cutaneous sensory distribution of the trigeminal nerve and its branches

Clinical features

- Onset: spontaneous or trigger zone stimulus
- Offset: spontaneous
- Precipitating factors
  - Talking, chewing
  - Touching triggers area on face **(upper & lower lip, nasolabial fold, lower eyelid)**
    - Turning onto pillow, washing, shaving
  - Cold weather/wind

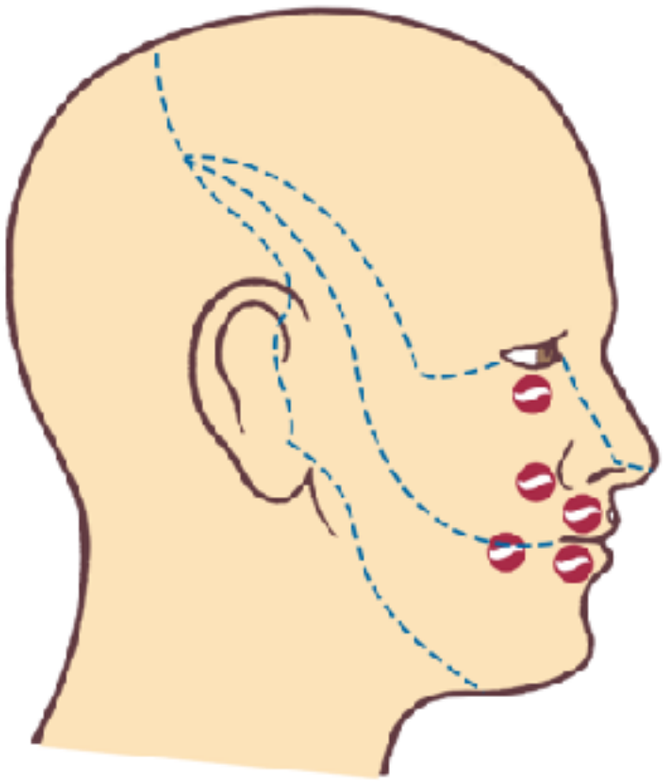


FIGURE 53.6 Trigeminal neuralgia: typical trigger points

Diagnostic criteria

- International Classification of Headache Disorders (ICHD-3)

A. **Recurrent paroxysms of unilateral facial pain** in the distribution(s) of one or more divisions of the trigeminal nerve, with no radiation beyond, and fulfilling criteria B and C

B. Pain has all of the following characteristics:
- Lasting from a fraction of **a second to two minutes**
- **Severe intensity**
- **Electric shock-like, shooting, stabbing or sharp** in quality

C. Precipitated by **innocuous stimuli** within the affected trigeminal distribution

D. Not better accounted for by another ICHD-3 diagnosis

Imaging

- MRI brain without contrast

- to rule out a causative structural brain lesion
- for all patients presenting with suspected TN

Treatment

- **Patient education, reassurance & empathic support** is very important in these patients

Medical treatment

- Carbamazepine
- Gabapentin
- Lamotrigine
- Phenytonin
- Clonazepam
- Baclofen
- Sodium Valporate

Surgery

- Refer to neurosurgeon if medication ineffective
- Possible procedures:
  - Decompression of trigeminal nerve root
  - Neuroblative treatment (thermocoagulation/ radiofrequency neurolysis)
  - Surgical division of peripheral branches

References

- UpToDate
- Murtagh ’s General Practice
- Geoffrey Quail. Facial pain – A diagnostic challenge. RACGP.Volume 44, No.12, December 2015 Pages 901-904
- RUDOLPH M. KRAFFT, MD. Trigeminal Neuralgia. *Am Fam Physician.* 2008 May 1;77(9):1291-1296.