

# **DISEASES OF NERVES**

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# TRIGEMINAL NEURALGIA

Tic douloureux

Trifacial neuralgia

Fothergill's disease

- Trigeminal neuralgia is an archetype of orofacial neuralgias which follows the anatomical distribution of the fifth cranial nerve
- Mainly affects 2<sup>nd</sup> and 3<sup>rd</sup> division of trigeminal nerve
- Associated with a trigger zone

# ETIOLOGY

- Exact etiology is unknown and most cases are idiopathic
- Suggested possible mechanisms
  - Peripheral injury or disease of the trigeminal nerve
  - Failure of central inhibitory mechanisms
  - Compression of trigeminal roots by tumors or vascular anomalies
  - May be due to local demyelination associated with multiple sclerosis

# CLINICAL FEATURES

- Age of onset
  - Older adults
  - Seldom seen before 35 years of life
- Females are more commonly affected (3:2)
- Right side of the face is more commonly affected (1.7 : 1)

- Pain is searing, stabbing, or lancinating type occurring in paroxysms
- Each attack persists for a few seconds to several minutes
- Usually initiated by touching the trigger zone
- May be associated with spasmodic contraction of facial muscles
- Sometimes associated with
  - Excessive lacrimation
  - Intense headache

- In early stages
  - Pain is mild (dull pain resembling toothache)
  - Time interval between attacks is long
- As disease progresses
  - Pain becomes more severe
  - Attacks are more frequent
  - Patients may develop suicidal tendency

- Trigger zones
  - Vermilion borders of the lips
  - Alae of nose and nasolabial fold
  - Cheeks
  - Around eyes
- Usually only one trigger zone in a patient



# DIFFERENTIAL DIAGNOSIS

- Migrane
- Sinusitis
- Tumors of nasopharynx
- Postherpetic neuralgia
- Trigeminal neuritis or trigeminal neuropathy
  - Burning, or dull boring ache
  - Continues for hours, days, or weeks

# TREATMENT

- Peripheral neurectomy
  - Sectioning of the nerve near mental foramen
  - Not used now
- Injection of alcohol
  - In peripheral nerve area
  - Centrally into the Gasserian ganglion
- Injection of boiling water into the Gasserian ganglion
- Surgical sectioning of trigeminal sensory root
- Microsurgical decompression of the nerve
- Drugs
  - Phenytoin
  - Carbamazapine
  - Gabapentin

# **SPHENOPALATINE NEURALGIA**

Horton's syndrome

Vidian neuralgia

# CLINICAL FEATURES

- Unilateral paroxysms of intense pain
- Rapid onset
- Persist for about 15 minutes to several hours
- No trigger zone

- Site
  - Eyes
  - Maxilla
  - Ear
  - Mastoid
  - Base of nose
  - Beneath zygoma
- Attacks develop regularly
- At least once in a day and in some patients at almost the same time of the day → “alarm clock headache”

# **BURNING MOUTH SYNDROME**

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- Burning or stinging of the oral mucosa, lips, and/or tongue, in the absence of visible mucosal lesions
- Majority of the cases are idiopathic
- Strong female predilection
- Age of onset is usually 50 years

# ETIOLOGY

- Local causes
  - Xerostomia
  - Mucosal disorders
    - Geographic tongue
    - Lichen planus
  - Trauma to oral mucosa
    - Poorly fitting dentures
  - Gastro-esophageal reflux
  - Sensory nerve damage



- **Systemic causes**
  - Nutritional deficiencies
    - Vit B12, folate, iron
  - Medications
    - ACE inhibitors
  - Sjogren's syndrome
  - Psychological
    - Stress, anxiety, fear of cancer
  - Diabetes mellitus
  - Menopause

# CLINICAL FEATURES

- Protracted history of the complain
- Continuous or intermittent discomfort
- Onset → sudden or gradual
- Dry mouth
- Increased thirst
- Altered taste sensation
  - Bitter or metallic
- No oral mucosal lesions will be detected on examination

# AURICULOTEMPORAL SYNDROME

Frey's syndrome  
Gustatory sweating

- Unusual phenomenon, which arises as a result of damage to the auriculotemporal nerve and subsequent reinnervation of sweat glands by parasympathetic salivary fibers
- Arises as a complication of surgery in the parotid region or ramus of mandible

# CLINICAL FEATURES

- Flushing and sweating of the involved side of the face during eating
- Profuse sweating is induced by parenteral administration of pilocarpine and eliminated by administration of atropin

# **BELL'S PALSY**

Idiopathic seventh nerve paralysis

- Abrupt, isolated, unilateral, peripheral facial nerve paralysis without detectable cause
- One of the most common neurologic disorder affecting the cranial nerves

# CLINICAL FEATURES

- Middle age
- Females affected more than males
- Onset may be rapid or gradual
- May be preceded by pain on the affected side of face



- Paralysis of facial muscles
  - Drooping of corner of mouth with drooling of saliva
  - Inability to close or wink the eye
    - Leads to infection and watering of eyes
  - Skin of the forehead does not wrinkle
  - Inability to raise the eyebrows
  - Mask-like or expressionless appearance of the face
  - Loss of taste sensation from the anterior 2/3 of tongue
  - Sometimes associated with Melkerson-Rosenthal syndrome