

# Glossopharyngeus and Vagus Disorders

Updated: September 25, 2009

**CN9 lesion** → see p. A74 (2) >>

**CN10 lesion** → see p. A75 (2) >>

## Supranuclear syndromes

1. **Pseudobulbar palsy** see p. Mov3 >>
2. **Spasmodic dysphonia** see p. S3 >>

**Nuclear syndromes** – **lateral medullary (s. Wallenberg) syndrome** see p. A59 >>

## Extra-axial syndromes:

- a) **brainstem surface** – **CN9** and **CN10** are affected together.
- b) **jugular foramen (Vernet syndrome)** – **CN11** is added.
- c) **retroparotid space (Villaret syndrome)** – **CN12** and **Horner syndrome** are added.

N.B. CN9 abnormalities may be clinically undetectable unless adjacent structures are also involved!

- most common CN10 lesion is that involving *recurrent laryngeal* nerve.
- **laryngeal EMG** can locate lesion producing vocal cord paralysis:
  - a) denervation restricted to cricothyroid or thyroarytenoid muscle alone - neuropathy of *superior laryngeal* or *recurrent laryngeal* nerves, respectively.
  - b) denervation of both muscles - lesion proximally in laryngeal nerve or vagus.

## GLOSSOPHARYNGEAL NEURALGIA (s. TIC DOULOUREUX of CN9)

### PATHOPHYSIOLOGY

- similar to *trigeminal neuralgia*.

### ETIOLOGY

1. Idiopathic
2. Vascular compression
3. Secondary GN - oropharyngeal malignancies, peritonsillar infection, osteophytic stylohyoid ligament, carotid aneurysm.

N.B. no association with MS (vs. trigeminal neuralgia)

### EPIDEMIOLOGY

**INCIDENCE** - 1/70-1/100 incidence of *trigeminal neuralgia* (i.e. annual crude incidence of 0.7 per 100,000).

- incidence highest in 6-8<sup>th</sup> decades.
- men = women.

### CLINICAL FEATURES

1. **PAIN** - similar to *trigeminal neuralgia* - brief, recurrent, stabbing, excruciating (few patients experience dull pain that persists for minutes or hours).
  - attacks last seconds to couple of minutes.
  - attacks are comparatively more mild than *trigeminal neuralgia*.
  - **located** in middle ear, tonsil, base of tongue, posterior pharynx, angle of jaw, larynx.
  - bilateral symptoms frequently occur (vs. trigeminal neuralgia).
  - **triggers** - swallowing, chewing, talking, coughing, clearing throat, tasting spicy food or cold liquids, yawning, touching tonsils with applicator.
  - **anesthetizing throat** (with LIDOCAINE on applicator or spray) may temporarily **relieve** pain - pain cannot be precipitated, and patient can swallow food and talk without discomfort.
  - attacks occur > 20 times per day (may awaken from sleep) ÷ once in several weeks.
  - patients may become emaciated because of fear that each morsel of food will precipitate pain paroxysm.
2. **COUGHING** may accompany pain.
3. **SYNCOPE** is unusual (1-2%) accompaniment of pain (discharges of CN9 to medulla cause bradycardia or even asystole by reflexive vagal output).

**Course** tends to be relapsing and remitting (long remissions are common, but untreated pains always recur).

### DIAGNOSIS

N.B. examination is normal in idiopathic glossopharyngeal neuralgia!

- 1) careful **examination** of oral cavity, pharynx, neck.
- 2) **X-ray** of stylohyoid ligament and styloid process.
- 3) **MRI** of posterior fossa.

### TREATMENT

**Medical** - identical to *trigeminal neuralgia* (**CARBAMAZEPINE** is drug of choice).

### Surgical:

- a) **ablation** of glossopharyngeal nerve (definitely terminates symptoms but sacrifices nerve).
- b) **microvascular decompression** (most common offending blood vessel is posterior inferior cerebellar artery); piece of Teflon felt may be placed between nerve and artery.

**Bibliography** for ch. "Cranial Neuropathies" → follow this [LINK](#) >>

Viktor's Notes<sup>SM</sup> for the Neurosurgery Resident  
Please visit website at [www.NeurosurgeryResident.net](http://www.NeurosurgeryResident.net)