Glossopharyngeus and Vagus Disorders

Last updated: September 5, 2017

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 6-8th 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 >>