# *Rotations' notes*

**ملاحظة مهمة : الدكتور أسامة البطوش**
**بظل يسأل عن هاي المواضيع بالراوند و**
**بحط تقييم بالراوند و هو بسأل و الأهم من**
**هيك 70% من امتحاننا كان من كلام**
**الراوندات ☺☺☺☺☺**

# Signs of allergic rhinitis :

1. **Pale enlarged turbinate.**
2. **Rhinorrhea.**
3. **Mouth breathing from Nasal congestion.**
4. **Sniffing.**

➢ **Samter's triad:**

1. **Asthma.**
2. **Sinusitis with recurring nasal polyps.**
3. **Aspirin sensitivity.**

❑ **Commonest causes of chronic cough:**

1. **Post nasal drip.**
2. **Bronchial asthma / COPD.**
3. **GERD.**

**DD of Unilateral opacity in nasal sinuses on CT :**

1. Inverted papilloma.
2. Antrachoanal polyp.
3. Tumour. ( first 2 are more important).

**DD of Bilateral opacities in nasal sinuses on CT:**

1. Nasal polyps.
2. Chronic sinusitis.
3. Fungal sinusitis.

❑**Signs of nasal deviation :**

1. Nasal obstruction.
2. Epistaxis (sometimes).
3. Dryness or hypertrophy in the contralateral nasal orifice.

**Complication of nasal deviation?**

✓Sinusitis.

➢**Note : what is the treatment of dry perforated tympanic membrane?**

✓Conservative ( 1st option).

✓Myringoplasty (Type one Tympanoplasty).

# Signs of otitis externa

1. **Narrowed external auditory canal.**
2. **Edema and erythema of the external auditory canal.**
3. **Conductive hearing loss may be evident.**
4. **Discharge.**
5. **Tragus sign is positive ( palpation of tragus elicits severe pain , in otitis media its moderate pain).**

# Vertigo

➢ **Central vertigo :**

1. Chronic.
2. Horizontal or vertical or mixed Nystagmus.
3. General weakness.
4. Difficulty in speech.
5. Diplopia.
6. No nausea or vomiting.

➢ **Peripheral vertigo:**

1. Acute.
2. Horizontal Nystagmus.
3. Nausea , Vomiting , Sweating , Tachycardia , Tachypnea.
4. Causes: the most three common causes

1) Benign paroxysmal positional vertigo.
2) Vestibular neuritis (Labrynthitis) ‘’2nd most common’’.
3) Meniere’s disease ‘’3rd most common’’.

# Benign paroxysmal positional vertigo

- **Duration ?**

✓ **Seconds to hours.**

➢ **There is no tinnitus , nausea , vomiting and hearing loss ( rare because it takes seconds).**

- **Test for diagnosis?**

✓ **Dix-hallpike test.**

- **Treatment?**

✓ **Epley maneuver.**

✓ **Surgery ( if Epley maneuver doesn't cure it ) : Complete closure of the posterior semicircular canal.**

- **Causes (etiology)?**

✓ **Idiopathic (50%).**

✓ **Head trauma.**

✓ **Chronic otitis media.**

✓ **Viral infection.**

# Vestibular neuritis (Labrynthitis)

- **Duration?**

✓**Days to one week.**

➢**There is nausea , vomiting and fatigue.**

- **Treatment?**

✓**IV Fluids.**

✓**Steroids.**

✓**Anti-emetic.**

- **Etiology?**

✓**Viral infection.**

# Meniere's disease

- **Etiology?**

✓**Idiopathic.**

- **Meniere's syndrome causes ( different from Meniere's disease)?**

✓ **Chronic otitis media.**

✓ **Viral infection.**

✓ **Syphilis.**

**Treatment :**

1. **Life style change : low salt intake.**
2. **Thiazide diuretics**
3. **Anti-vertigo (Betahistine).**
4. **Intratympanic injection of aminoglycoside like Gentamycin ( Ototoxic drug which damages the dark cells that produce the endolymph) can improve vertigo.**
5. **Surgery : Labrynthectomy or Endolymphatic sac decompression.**

- **Duration of vertigo?**

✓**20-30 minutes to hours.**

➢**There is tinnitus , Unilateral , fluctuating hearing loss for *low frequencies* and ear fullness.**

➢**Tympanometry :Normal (Type A).**

➢**Rinnie test : Positive.**

➢**Weber test : Lateralized to the contralateral side.**

➢**Hearing loss : Sensorineural.**

# Vestibular schwannoma ( Acoustic neuroma)

✓**Progressive Unilateral Sensorineural hearing loss for *high frequencies* with Tinnitus.**
✓**The most common benign tumour in the cerebellopontine angle.**
✓**10% of vestibular schwannoma present with sudden hearing loss.**
✓**1% of sudden hearing loss are due to Vestibular schwannoma.**

- **Tympanometry?**

✓**Type A.**

- **Rinnie test?**

✓**Positive.**

- **Weber test?**

✓**Lateralized to the contralateral side.**

**First nerve affected?**

✓ **Trigeminal nerve ( absent or reduced corneal reflex).**

**Treatment:**

1. **Radiation (Gamma knife).**
2. **Surgery.**

**Complications of surgery?**

1. **Permanent hearing loss.**
2. **Facial nerve palsy.**

# *Diseases of external + middle ear*

- **Hearing loss :**

✓**Conductive hearing loss.**

- **Tympanometry:**

✓**Flat line ( Type B).**

- **Rinnie test:**

✓**Negative.**

- **Weber test:**

✓**Lateralized to the affected side.**

# Causes of unilateral tinnitus

1. **Meniere's disease.**
2. **Glomus tumor " Chemodectoma / Paraganlionoma " ( Most common benign tumour in the middle ear and temporal bone , present with pulsatile tinnitus in females , Detected by MRI) .**
3. **Vestibular schwannoma.**

# *Tympanometry (IMPORTANT)*

✓Measures the Impedance of tympanic membrane and middle ear.

✓Normal volume = 0.3-1.5 / Normal pressure =-100 -100

➢Type A :

✓Normal.

➢Type AS: Low compliance

✓Otosclerosis (fixation of ossicles).

✓Tympanic membrane scarring.

➢Type AD : High compliance

✓Flaccid or thin tympanic membrane.

✓Disarticulation of ossicles.

✓Post-stapedectomy.

➢Type B : Flat line

✓Impacted wax ( Low volume).

✓Otitis media with Effusion ( Normal volume).

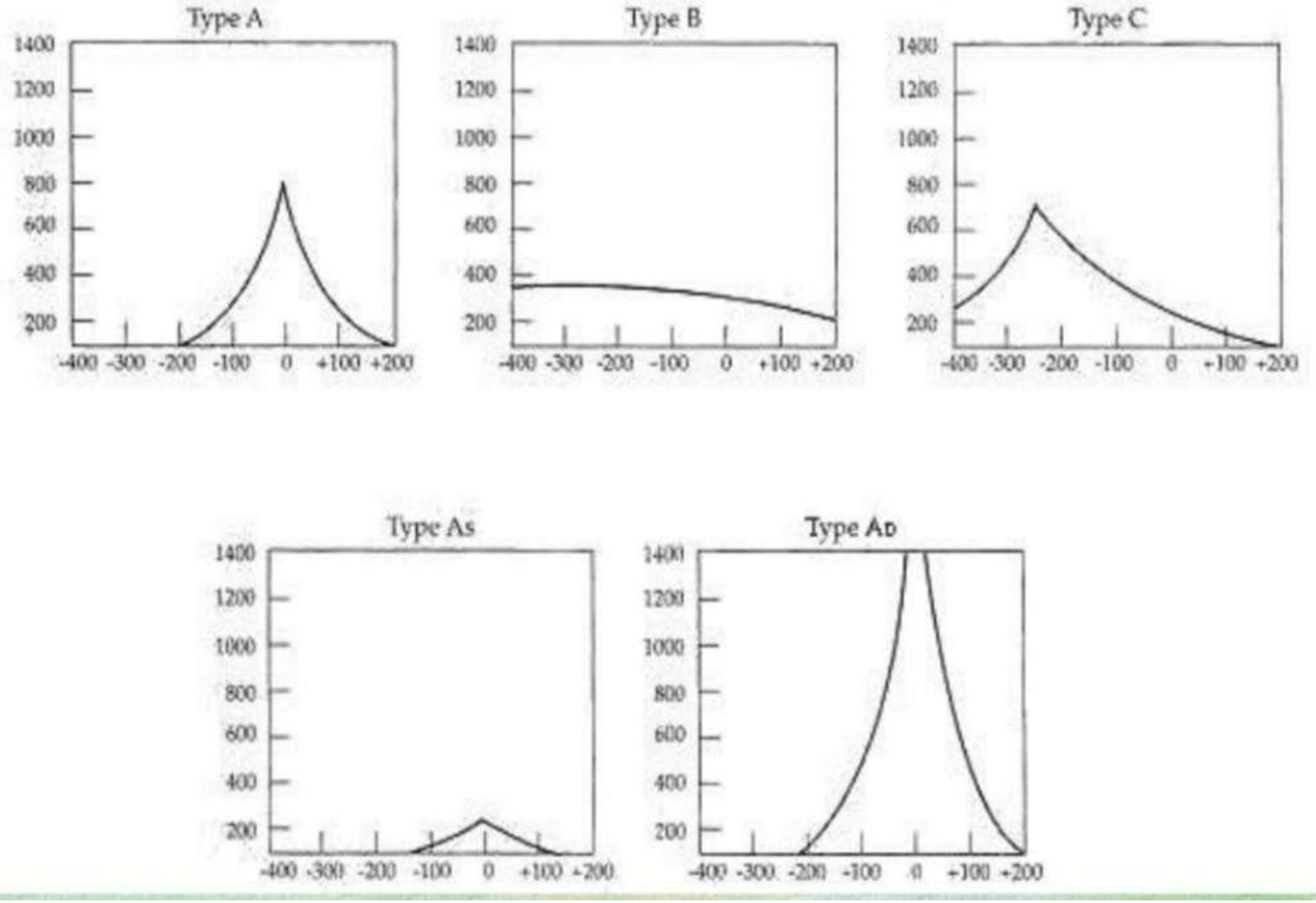
✓Perforated tympanic membrane (High volume).

➢Type C : Negative pressure

✓Eustachian tube dysfunction.

✓Tympanic membrane retraction.

# Tympanogram Types



# Tonsillitis

- 80% **are viral.**
- **Viral tonsillitis:** ***( Adenovirus and Rhinovirus)***

✓**Low grade fever.**

✓**Tonsils redness and congestion.**

✓**Cough , sneezing and rhinorrhea.**

- **Bacterial tonsillitis:** ***(Streptococcus pyogenes "group A strep beta hemolytic strep")***

✓**High grade fever.**

✓**Lymphadenitis.**

✓**Exudate and pus on tonsils.**

✓**Treatment of choice : Penicillin.**

**DD of bacterial tonsillitis:**

1. **Diphtheria.**
2. **Malignancy.**
3. **Fungal infection.**
4. **Infectious mononucleosis (EBV).**
5. **CMV.**
6. **Scarlet fever.**

**Absolute Indications for tonsillectomy:**

1. **Recurrent infection of throat ( 7 or more in 1 year / 5 per year for 2 years / 3 per year for 3 years).**
2. **Suspected malignancy ( asymmetrical tonsils).**
3. **Airway obstruction (OSA).**

**Relative indications for tonsillectomy:**

1. **Second peritonsillar abscess (Quinsy).**
2. **Febrile convulsion.**
3. **Halitosis.**
4. **Dysphagia.**

# Complications of tonsillectomy

1. **Bleeding :(Primary , Reactionary , Secondary).**
2. **Infection.**
3. **Tonsillar remnant.**
4. **Tongue , dental injury.**

- ***Primary hemorrhage: during operation.***
- ***Reactionary hemorrhage : during 24 hours.***
- ***Secondary hemorrhage : after (1) week due to infection.***

**Blood supply of the tonsills:**

1) Tonsillar branch (from facial A.)
2) Ascending palatine (from facial A.)
3) Ascending pharyngeal (from ECA)
4) Dorsal lingual (from lingual A.)
5) Descending palatine A. (from maxillary A.)

# Treatment of bleeding post tonsillectomy

1. **ABC.**
2. **Compression + Vasoconstrictor.**
3. **Cauterization.**
4. **Ligation ( only in Primary and Reactionary hemorrhage).**
5. **Antibiotics ( in  Secondary hemorrhage).**

## Post tonsillectomy plan:

1. **NPO for 2 hours.**
2. **Cold water and food ( For vasoconstriction).**
3. **Avoid hot and harsh food for 10 days.**
4. **Prophylactic antibiotics and high dose painkillers ( for referred ear pain).**

# Peritonsillar abscess presentation

- ✓**95% are unilateral bulging with pus and exudate.**
- ✓**Dysphagia.**
- ✓**Sore throat.**
- ✓**High grade fever.**
- ✓**Trismus.**

➢**Treatment:**

1. **Pediatric ( Give systemic antibiotic , aspiration with incision and drainage if the patient doesn't improve with the antibiotic in 48 hours).**
2. **Adults ( Aspiration with incision and drainage).**

# Pharyngeal tonsils hypertrophy ( Adenoids)

- ✓ **Snoring.**
- ✓ **Sleep apnea ( cessation of breathing more than 10 seconds /hour of sleep in adults _ 5 seconds/hour of sleep in children) : diagnosed by polysomonogram).**
- ✓ **Mouth breathing.**

➢ **Investigation you should ask for ?**

- ✓ **Post-nasal space X-ray!!!**

➢ **Indications of adenoidectomy:**

- ✓ **Sleep apnea.**
- ✓ **Recurrent infection ( acute otitis media , Rhinosinusitis).**
- ✓ **Chronic otitis media with effusion.**

**Specific Contra-indications for adenoidectomy:**

- ✓ **Cleft palate or submucous palate.**
- ✓ **Neurological abnormality impairing palatal function like Down syndrome.**

**Non-specific contra-indications for adenoidectomy:**

- ✓ **Bleeding disorders.**
- ✓ **Upper respiratory tract infection.**

❑ **Treatment of adenoid hypertrophy?**

➢ **Medical :**

- ✓ **Anti-histamines**
- ✓ **Topical nasal steroids.**

➢ **Surgical :**

- ✓ **Adenoidectomy.**

# *Otitis media with effusion*

Tympanometry : Type B /normal volume.
Rinnie : negative
Weber : lateralized to the affected side.

- **Most common cause?**
- ✓ **Adenoid hypertrophy leading to Eustachian tube dysfunction leading to negative pressure >>> retraction pocket >>> accumulation of fluid .**
- **Most common symptom?**
- ✓ **Mild conductive hearing loss.**
- ✓ **Painless.**
- ✓ **Must be suspected in children with delayed speech.**
- ✓ **History of hearing loss more than 3 months with no discharge or perforation indicates *otitis media with effusion.***

**Treatment :**

- **Usually medical:**
  - ✓ **Nasal steroid.**
  - ✓ **Nasal Anti-histamines.**
- **Surgical in 10% of cases:**
  - ✓ **Myringotomy with Grommet insertion.**
- **Complications of surgery?**
  - ✓ **Infection.**
  - ✓ **Bleeding.**
  - ✓ **Permanent perforation.**
  - ✓ **Damage to the ossicles.**
  - ✓ **Damage to the facial nerve.**

# Chronic otitis media

Tympanometry : Type B / High volume.
Rinnie : negative
Weber : lateralized to the affected side.

- There should be :

1. Chronic perforation.
2. Chronic mastoiditis.
3. Chronic Eustachian tube dysfunction.
4. Chronic discharge.

➢ Most common microorganism ?

✓ Pseudomonas aeroginosa.

➢ Treatment? (Medical)

1. Swab culture.
2. Aural toilet ( Regular suction).
3. Topical antibiotics (ear-drops).

➢ Treatment of complications?

✓ Surgery (Mastoidectomy).

➢ Chronic discharge with inflammation of the mucosa of tympanic membrane + ***severe itching*** indicates:

❑ Fungal infection : (Otomycosis)

✓ 90% Aspergillus (wet newspaper).

✓ 10% Candida (whitish).

▪ Treatment : Topical antifungal 3-4 weeks.

# Acute otitis media

- ✓ **Dull tympanic membrane with redness + Otalgia since 3 days.**
- ✓ **Usually follows upper respiratory tract infections.**
- ✓ **Sometimes nausea , vomiting , diarrhea and abdominal pain in pediatrics ; Due to Vagus nerve innervation.**

- ➢ **Treatment? *( according to the stage : check the seminar)***
- ✓ **Pain killer.**
- ✓ **Systemic antibiotic.**
- ✓ **Decongestant.**

**DD of acute otitis media in pediatrics ( when there is nausea , vomiting , diarrhea and abdominal pain?**

- ✓ **Gastroenteritis.**
- ✓ **Appendicitis.**
- ✓ **Peritonitis.**

# *Facial  nerve palsy*

- **Most common causes:**

1. **Idiopathic ( Bell's palsy).**
2. **Ramsay hunt syndrome ( 2nd most common ) : with vesicular eruption around the face and ear , *type of hearing loss is Sensorineural*.**

**Terminal branches in the parotid gland:**

1. **Temporal.**
2. **Zygomatic.**
3. **Buccal.**
4. **Marginal mandibular.**
5. **Cervical.**

- **Temporal bone fracture types:**

✓**Longitudinal ( 80%) : Damage to the Tympanic membrane + Ossicles ( Conductive hearing loss) + Late facial palsy.**

✓**Horizontal ( 20%) : Damage to Vestibulocochlear nerve or Labyrinth ( Sensorineural hearing loss) + Immediate facial palsy.**

- **Treatment of facial palsy :**

1. **Steroids ( Prednisolone) in the morning 12 tablets daily for 5 days , should be within 48 hours of the palsy.**
2. **Antivirals are controversial.**
3. **Eye care ( Artificial tears , Topical ointment , Eye cover).**
4. **Physiotherapy after two weeks.**
5. **Surgery.**

**Stapedial reflex ( Cochlear reflex):**

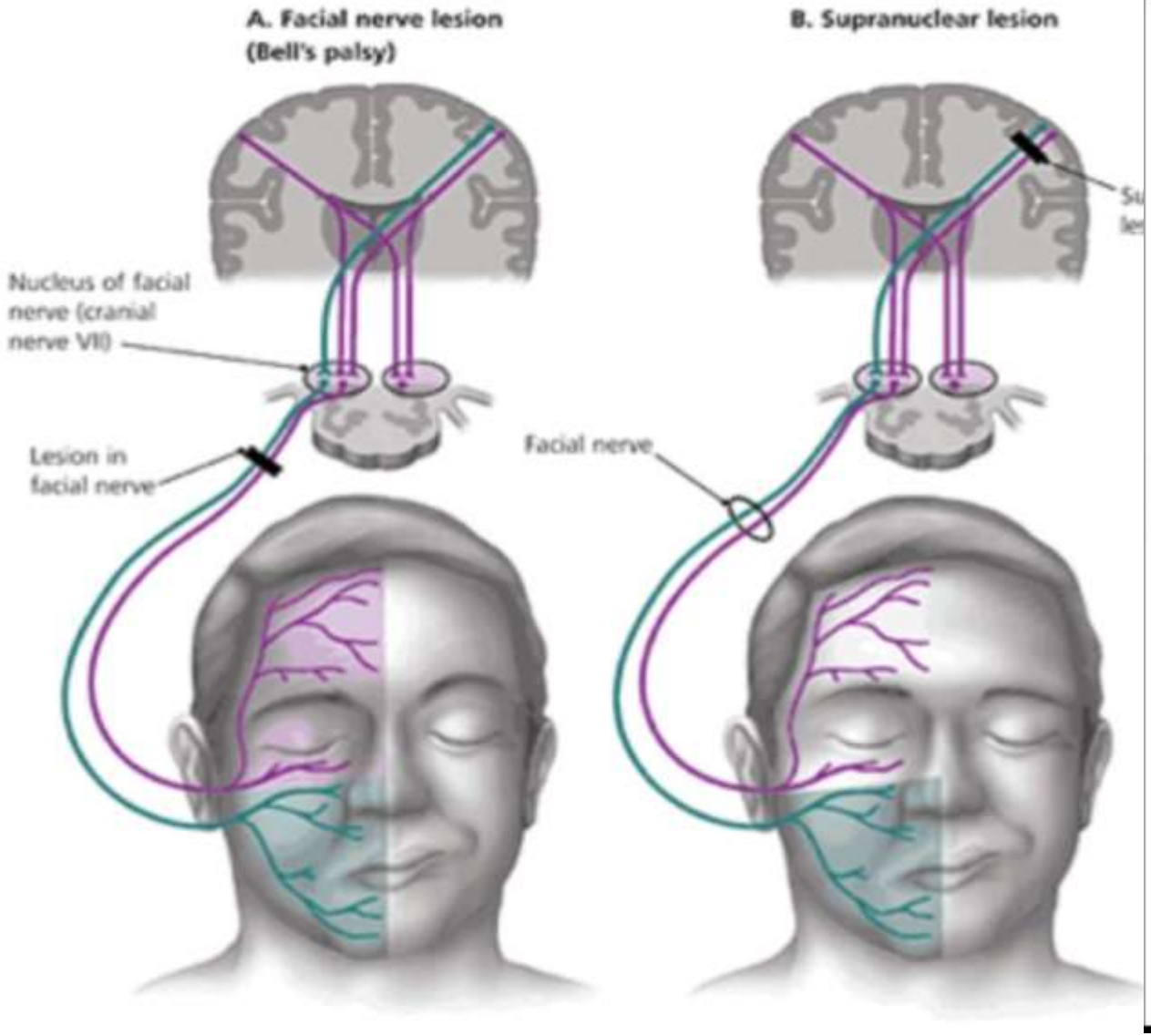
- **Afferent : Vestibulocochlear nerve CN VIII.**
- **Efferent : Facial nerve CN VII.**

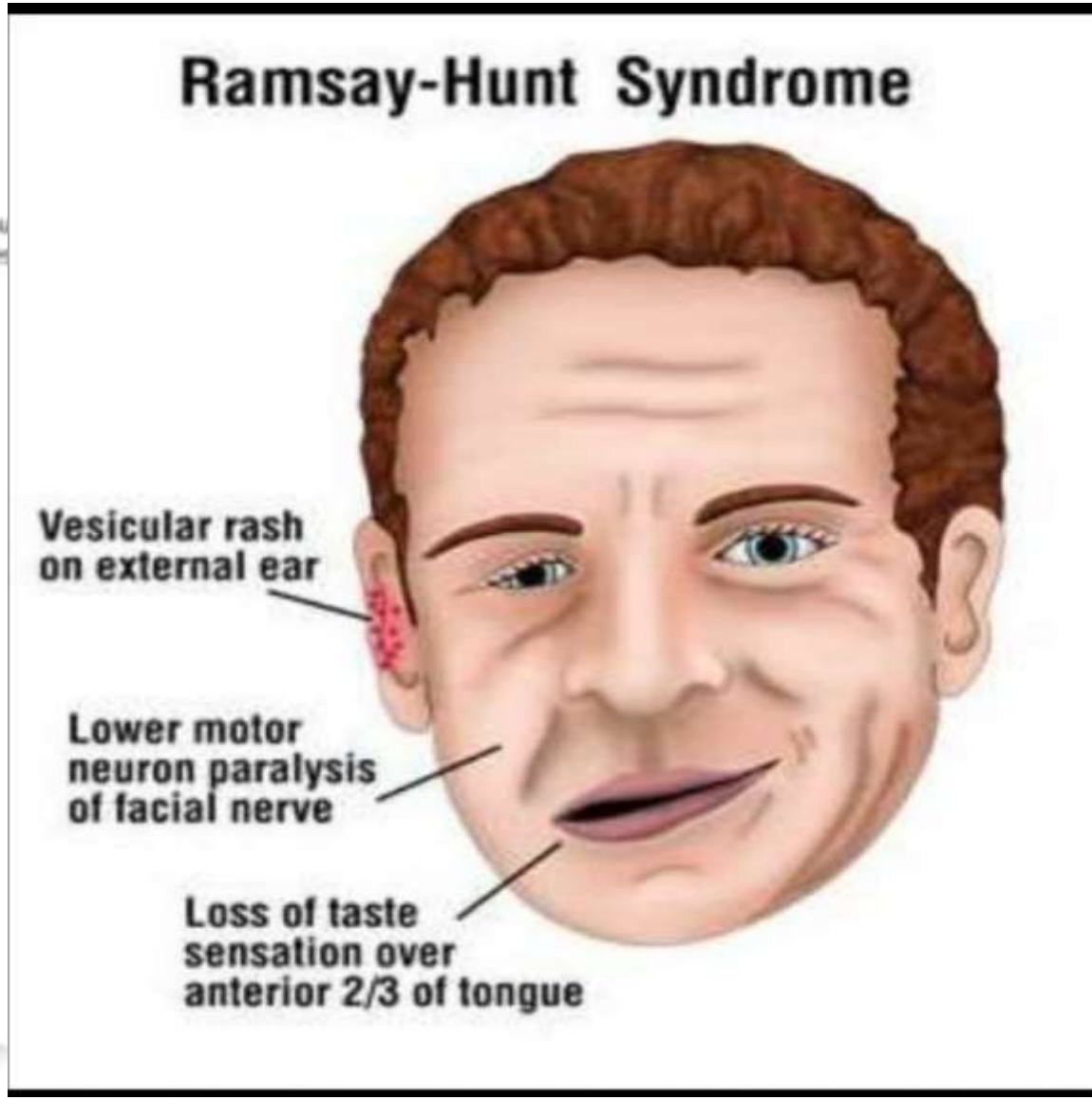
# Motor neuron lesion

| Upper motor neuron lesion (Central ) | Lower motor neuron lesion (Peripheral) |
|---|---|
| Manifests in the contralateral side ( Right upper motor neuron lesion will manifest in left lower face) | Manifests in the ipsilateral side ( Right lower motor neuron lesion will manifest in the right whole face) |
| Closure of the eye is preserved | Inability ( or weakness) to close the ipsilateral eye |
| Forehead movement is normal ( frontal wrinkling isn't lost) | Forehead movement is paralyzed ( Frontal wrinkling is lost) |
| Deviated angle of mouth | Deviated angle of mouth |

**Causes of recurrent facial palsy:**

1. **Melkersson-Rosenthal syndrome.**
2. **Sarcoidosis.**
3. **Parotid tumours.**


A. Facial nerve lesion
(Bell's palsy)
B. Supranuclear lesion
Nucleus of facial nerve (cranial nerve VII)
Lesion in facial nerve
Facial nerve


Ramsay-Hunt Syndrome
Vesicular rash on external ear
Lower motor neuron paralysis of facial nerve
Loss of taste sensation over anterior 2/3 of tongue