

# Facial Nerve Paralysis

Dr Nada K. Yaseen

# Bell's Palsy

Dr. Nada K. Yaseen



# Idiopathic facial palsy (Bell's Palsy)

- *Most common cause of facial paralysis* (>50% of case)
- Most age 25-30 yrs.
- Male : Female = 1 : 1
- Left side : Right side = 1 : 1
- Unilateral > bilateral
- Increase risk in
  - pregnancy 3.3 times
  - DM 4.5 times
- Recurrent rate 10%
- 60% have previous URI

# Etiology

## ■ Unknown

- Microcirculatory failure of vasa nervorum
- Viral infection (HSV)
- Ischemic neuropathy
- Autoimmune reaction

## ■ Entrapment theory

# Diagnosis

- *By exclusion*

- Criteria :

- Paralysis or paresis of all muscle groups of one side of the face
- Sudden onset
- Absence of signs of CNS disease
- Absence of signs of ear or CPA disease

# Medical treatment

- Corticosteroids :
  - prednisolone 1 mg/kg/day 7-10 days
- Corticosteroids combine with antiviral drug is better
- Acyclovir 400 mg 5 times/day
- Famciclovir and valacyclovir 500 mg bid

# Surgical treatment

- Facial nerve decompression
- Indication
  - Completely paralysis
  - ENOG less than 10% in 2 weeks
- Appropriate time for surgery is 2-3 weeks after paralysis

# Herpes Zoster Oticus (Ramsay Hunt Syndrome)

- 3<sup>rd</sup> most common of peripheral facial paralysis (10%)
- Aged > 60 yrs. or low immune (low CMIR)
- Virus travels to the dorsal root extramedullary cranial nerve ganglion
- Infected of HZV at auricular, external canal or face
- Prodromal symptoms very similar to those seen in Bell's palsy
- but usually more severe



# Herpes Zoster Oticus (Ramsay Hunt Syndrome)

- Symptoms include severe otalgia, facial paralysis, facial numbness, and a vesicular eruption on the concha, external auditory canal, and palate
- Facial paralysis + hearing loss + vertigo → “canal paralysis”
- Pathophysiology & treatment liked in Bell’s palsy

# Temporal bone fractures

- Longitudinal fracture
- Transverse fracture
- Mixed fracture

# Temporal bone fractures

## ■ Signs

- bleeding from the external canal
- hemotympanum
- step-deformity of the osseous canal
- conductive hearing loss (longitudinal fracture)
- sensorineural hearing loss (transverse fracture)
- CSF otorrhea
- facial nerve involvement (20% of longitudinal fractures and 50% of transverse fractures)

# Longitudinal VS Transverse

Type of injury	Longitudinal	Transverse
Incidence	70-90%	10-20%
Site of injury	Temporal , Parietal area	Occipital , Frontal area

**Origin of  
fracture site**

Temporal  
squama

Foramen  
magnum

**Direction of  
injury**

Posterosuperior  
of EAC cross  
roof of middle  
ear along  
carotid canal  
anterior to  
labyrinthine  
capsule

Between various  
foramen Jugular  
F. Hypoglossal F.  
Labyrinthine  
capsule

Insertion	middle cranial fossa	middle cranial fossa
Tympanic mb. Middle ear Inner ear	<i>มักจะฉีกขาด</i> <i>กระดูกหูเลื่อนหลุด</i> <i>ไม่</i> <i>กระทบกระเทือน</i>	ปกติ, hemotympanum ไม่ค่อยพบ มีการ กระทบกระเทือน
Hearing loss	CHL	SNHL
Vertigo	No	Common

<b>Facial paralysis</b> <b>Onset</b>	20-25 % Delayed, transient	<b>50%</b> <b>Immediate,</b> <b>permanent</b>
<b>Site of lesion</b>	Tympanic segment , Perigeniculate ganglion	Labyrinthine segment
<b>CSF otorrhea</b>	No	Common

**Cardinal  
S&S**

1. Bleeding from ear
2. CHL
3. Battle's sign

1. Vertigo & Nystagmus
2. SNHL
3. Facial paralysis
4. Hemotympanum

**CT-scan**

Axial & sagittal section

Coronal & 20 degree coronal oblique section



# Prognosis

- Immediate onset paralysis : poor prognosis
- Delayed onset paralysis : good prognosis
- All case of paralysis → electrical testing

# Treatment

- Surgery is treatment of choice
- Indications for facial nerve exploration
  - incomplete paralysis
  - iatrogenic paralysis
- Contraindications : any case have no poor prognostic factors

# Complications

- Complications of facial nerve decompression
  - dural tears
  - conductive or sensorineural hearing loss
  - vestibular function loss
  - persistent CSF leaks
  - meningitis
  - injury to the anterior inferior cerebellar artery (AICA) or its branches