Chapter 4: Facial Paralysis

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Idiopathic (Bell's) Paralysis

Subjective Complaints

Facial weakness of spontaneous onset by history involving one side of face. May be complete or incomplete. No history of draining ear, associated trauma. Possible history of prior episode, or association of diabetes, pregnancy, hypertension, or family history.

Objective Findings

Facial paralysis - complete or incomplete. Note facial tone and tearing on involved side. Examine ear canal and tympanic membrane to rule out disease. Rule out other neuropathy by cranial nerve examination and complete neurologic examination. Differentiate between central paralysis (lower face involved ipsilaterally) and peripheral etiology (forehead not spared as in central).

Assessment

Audiogram to evaluate cochlear division of VIIIth nerve. X-rays - preferably polytomography of temporal bone - to rule out lesion of internal auditory canal and fallopian (facial) canal. If complete paralysis, topographical analysis of facial lesion important: Schirmer test to evaluate lacrimation (greater petrosal branch); stapedial reflex to evaluate stapedial branch; taste test or salivary flow to evaluate third branch (chorda tympani). Nerve excitability testing critical to differentiate between neuropraxia (physiologic block) and neurotmesis (nerve death). If partial paralysis, determine which branches are involved so that progression or resolution may be noted. Nerve excitability testing appropriate. Electromyogram (EMG) is helpful after 14-21 days in identifying fibrillation potentials (nerve death). Electronystagmography (ENG) may be done to check vestibular division of VIIIth nerve.

Plan

If incomplete paralysis or complete paralysis with normal or near normal nerve excitability, may institute steroid therapy (controversial, although most use): prednisone, 60 mg per day, phasing out in decrements in 10-14 days. Follow very closely (at least every other day) during first 2 weeks to rule out progression to nerve death.

If complete and nerve excitability definitely abnormal or absent (or if EMG shows fibrillation potentials 2 and 3 weeks after onset) refer immediately to otologist or otolaryngologist for consideration of surgical decompression.
Traumatic Facial Paralysis

Subjective Complaints

Facial paralysis associated with head trauma. Check for history of loss of consciousness, drainage from ear. Note whether immediate or delayed onset. (If delayed, handle like Bell's). Head trauma may be due to birth, gunshot wound, skull fracture, or surgery.

Objective Findings

Determine if complete or incomplete. Examine ear canal and (TM) for lacerations, hemotympanum, and CSF otorrhea. Check for other cranial nerve or neurologic deficits. Note as soon as examination is possible condition of facial movement to differentiate immediate and delayed paralysis.

Assessment

Topographical analysis of paralysis (see Idiopathic (Bell's) Paralysis). X-rays for temporal bone - base of skull fracture. Polytomography best. Audiogram for hearing level. ENG, if condition permits, to evaluate labyrinth.

Plan

If CSF otorrhea: broad spectrum antibiotic coverage and sterile dressing immediately. Delayed onset: management like idiopathic (Bell's) paralysis. Immediate onset: requires referral to otologist or otolaryngologist for surgical exploration as soon as condition allows.

Herpes Zoster Oticus (Ramsay Hunt Syndrome)

Subjective Complaints

Facial paralysis associated with painful herpetic lesions in ipsilateral concha and external meatus. May have other sensory nerve distribution.

Objective Findings

Herpetic lesions of concha and external meatus of involved side. Determine complete or incomplete paralysis.

Assessment

Determine involvement of VIIth nerve topographically. Check hearing and ear canal and TM to rule out otitis media, etc.

Plan

Manage same as Bell's.
Facial Paralysis Due to Chronic Otitis Media

**Subjective Complaints**

History of draining ear or chronic ear infections usually preceding onset of facial weakness.

**Objective Findings**

Evidence of otitis media by actively draining, infected middle ear with perforation or by cholesteatoma. (May be dry.) Evaluate complete or partial paralysis.

**Assessment**

Hearing test. X-rays of mastoid and middle ear and facial canal.

**Plan**

Antibiotics. Refer for immediate surgical exploration.

Facial Paralysis Associated With Neoplasm

**Subjective Complaints**

History of facial paralysis, possible recurrent and may be associated with hearing loss, progressive, dizziness, facial twitching. May have draining ear (facial neuroma or glomus eroding into canal).

**Objective Findings**

Check completeness of paralysis, other cranial nerves including corneal reflex and complete neurologic. Examine ear canal and drum carefully.

**Assessment**

Audiogram for unilateral hearing loss or poor discrimination. Acoustic reflex decay test for positive decay. Polytomography of internal auditory canal for cerebellopontine angle lesion (acoustic neuroma), fallopian canal for facial neuroma, and jugular foramen for glomus tumor.

**Plan**

If suspect acoustic neuroma, refer for posterior fossa myelogram and surgery. If suspect glomus tumor, facial neuroma, refer for evaluation and possible surgery.

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Facial Laceration Causing Paralysis

Subjective Complaints

History of facial laceration (or surgery in area) associated with complete or partial facial weakness.

Objective Findings

Evaluate completeness of facial paralysis and determine where nerve most likely injured.

Assessment

Topographical analysis (see first section, Bell's Paralysis) to be sure nerve not injured proximally to suspected area.

Plan

Refer for immediate microsurgical anastomosis of lacerated nerve.

Congenital Facial Paralysis

Subjective Complaints

History of facial abnormality at birth. Paralysis of face may be associated with paralysis of lateral gaze (Möbius syndrome), hypoplastic mandible, or microtia (Treacher Collins syndrome).

Objective Findings

Evaluate development of ears and ear canal for microtia and atresia or stenosis. Evaluate development of other cranial nerves and mandible-maxilla complex. Observe for other congenital abnormalities.

Assessment

X-rays usually not indicated until later when surgical correction contemplated.

Plan

Refer for evaluation of hearing and follow-up management.
Central Etiology of Facial Paralysis

Subjective Complaints

History of stroke with facial weakness. History of simultaneous double vision, hemiparesis, etc.

Objective Findings

Central facial paralysis with sparing of ipsilateral forehead. May have other neurologic deficits such as VIth nerve paralysis of hemiparesis.

Assessment

X-ray of skull and temporal bone, audiogram, stimulate nerve if complete, spinal fluid analysis, CAT scan.

Plan

Refer for otologic and neurologic evaluation if does not fit pattern of simple stroke to rule out tumor, demyelinating disease, etc.

Melkersson's Syndrome

Subjective Complaints

History of recurrent facial weakness associated with swelling of face and fissured tongue.

Objective Findings

Facial paralysis, fissured tongue, and facial edema.

Assessment

X-rays and hearing test to rule out tumor.

Plan

Steroids (as for Bell's); return of function usually excellent in this syndrome.

Malignant External Otitis Causing Facial Paralysis

Subjective Complaints

History of ear infection associated with progression to toxic state, facial weakness; often patient is elderly diabetic.
Objective Findings

Facial paralysis with draining necrotic area, posterior ear canal.

Assessment

Culture usually reveals Pseudomonas. X-rays for evaluation of erosion. Evaluate for diabetes if not known.

Plan

Treatment must be aggressive to avoid mortality - gentamycin, 3-5 mg per kg per day and carbenicillin, 4-6 g every 4 hours, and possible surgical debridement. Immediate consultation or referral advisable.

Guillain-Barré Syndrome

Subjective Complaints

History of bifacial palsy associated with ascending paralysis.

Objective Findings

Ascending paralysis, and bifacial paralysis.

Assessment

Spinal fluid; neurologic examination.

Plan

Steroids; observe for respiratory distress.

Multiple Sclerosis

Subjective Complaints

History of facial weakness - may be associated with other symptoms or weakness or pain in upper or lower extremity. May have history of dizziness.

Objective Findings

Facial paralysis, tone usually good. Check for other neuropathy. Multiple neuropathies important for diagnosis. Complete neurologic examination.

Assessment

Audiogram, ENG, x-rays, visual evoked response.
Plan

Steroids and observation.