Chronic Ear Disease

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Contemporary Approach

Dipolar restriction: largely historic

Contemporary approach

Unrestricted by dipolar concept

Modify approach based on extent of disease and clinical circumstances
Treatment Objectives

1. Infection control

2. Closure of ear with air-containing middle ear by grafting

3. Hearing rehabilitation
Definition of Problems

1. Hostile surgical circumstance
   Degree of ear areation
   Infection
2. Extent of tympanic membrane pathology
3. Extent of middle ear ossicle pathology
   Myriad of possible permutations present
Preoperative Planning

1. Thorough examination is needed
2. Status of sinonasal disease
3. Status of contralateral ear is important
   No clinically useful Eustachian tube function test exists
Control of Contributing Factors

1. Nasal/sinus disease
   Wait 6 weeks for ear surgery after sinus surgery

2. Adenoid disease
   Wait 6 weeks

3. Allergy
   No need to delay treatment
Control of otorrhea

Try to control otorrhea preoperatively

Sometimes surgery is needed to control it

Postoperative infection correlates with graft failure but not with preoperative infection

Preoperative radiology

In only hearing ear

Long standing disease is present

Use contrast if complications are suspected
Complications

Early recognition is key

Traditional presentations of complications may not be reliable due to antibiotics use

Red-flags

Otorrhea > 3 weeks despite treatment
Recurrent ear infections < 2 weeks of tx
Foul smelling discharge
Decreased otorrhea with otalgia
Granulation tissue with pulsating otorrhea
Patient Information

Provide details of surgery

Potential risks
Complications
Reasonable expectations

Informed consent
Make sure your patients understand what you are planning to do
Surgical Technique

Basic principles
  Infection control
Exposure
Hemostasis
Grafting technique
Mastoidectomy
Staging
Ossicular reconstruction
Tympanosclerosis
Atelectatic ear
Infection Control

1. Adhere to sterile technique
2. Irrigate the ear with Betadine
   Harmless for 10-15 minutes
   Copious saline irrigation
3. Use of prophylactic antibiotics
   Controversial
Exposure

Postauricular approach
- Better illumination
- Better access to all regions of TM and middle ear

Graft placement success
- Most effective when you can clearly see where the graft is

Complete mastoidectomy
- Infection control technique

Exposure device
Hemostasis

Meticulous hemostasis is critical for successful surgery

Postauricular injection

Canal injection at the beginning
  Small syringe and a 27G needle

Intraoperative hemostasis
  Bone wax
  Epinephrine 1:1000 soaked Gelfoam
  Bipolar cautery
Grafting Technique

Whatever works for you is fine
  Superficial temporal areolar fascia
  Temporalis fascia
  Tragal perichondrium
  Periosteum
  Vein
Mastoidectomy

Relative indications for mastoidectomy

1. Revision surgery after failed multiple tympanoplasties
2. In some children where areation is a problem
3. Recent and prolonged otorrhea recurrent after, or unresponsive to tx
4. Extreme epitympanic ossicular fixation pathologies
Staging

Staging is still valuable

When to consider staging
1. TM pathologies coexist with ossicular problems
2. Very poor mucosal status in the middle ear
3. High chance of recurrent cholesteatoma
4. Disease on the stapes suprastructure and footpalte
Ossicular Reconstructions

Points to consider

Know your prosthesis well

Use cartilage/tissue graft

Stage less optimal ears

Place the prosthesis vertical
Tympanosclerosis

Immunobiological nature and consequences poorly understood
Limited tympanosclerosis should be removed
Stapes fixation is very problematic
Minor oval window tympanosclerosis can be repaired with stapedectomy
Extensive disease: use hearing aids
Atelectatic Ear

Adynamic monomeric TM
Choleateatoma, ossicular erosion
Atelectatic ear looks terrible but functions well
Better to fix it
It will progress and better to fix early
Rule out nasopharyngeal pathology
Problem Cavity

Poor prior CWD technique
Otorrhea with odor
Debris accumulation
Hearing loss
Requires constant medical attention
Patient is a water cripple
Problem Cavity

Morphologic findings
A small meatus
A high facial ridge
Incomplete degrees of EAC wall removal
A deep, dependent mastoid tip cavity
A TM perforation with weeping, diseased mucosa
Impacted debris
Mucopurulent otorrhea
Absolute Indications for CWD

Unresectable disease
Definition of unresectability varies

Impossibility of follow up surveillance
Unwillingness of patients
Inability of compliance

Posterior canal wall eroded by the prior surgery or disease process
Relative Indications for CWD

1. Disease in the only hearing ear
2. Disease in the dead ear
3. When disease in the medically informed precludes staging or multiple anesthetics
4. Disease complicated by intracranial or intratemporal problems.
5. When neoplasms such as glomus tumors or primary adenomas require CWD exposure