1061
CHOLESTEATOMA CLASSIFICATION AND SURGICAL STRATEGY

B. FRAYSSE, J. FAYAD
SELECTING THE GOOD APPROACH

- Preoperative clinical factors:
  - Otoscopic examination
  - Audiometrical findings
  - High resolution CT-Scan
  - Use of endoscopy

- Intraoperative findings and surgical experience
HAVE YOU EVER WANTED TO EXPLORE THE FUTURE OF TECHNOLOGY IN MEDICINE?

In the field of medical technology, where advancements are constant, there are always innovations that push the boundaries of what is possible. From precision-guided surgery to personalized medicine, technology is rapidly transforming the way we approach healthcare. The future promises to be even more exciting, with the potential for breakthroughs in areas such as genomics, immunotherapy, and artificial intelligence.

As we look to the horizon, it's clear that technology will continue to play a crucial role in the delivery of healthcare. From remote monitoring and telemedicine to personalized treatment plans, technology will enable healthcare providers to provide more efficient and effective care to patients. With the rise of blockchain and AI, it's likely that we'll see even more innovations in the coming years.

One area that is particularly promising is personalized medicine. With the ability to analyze genetic information and create tailored treatment plans, personalized medicine has the potential to revolutionize the way we approach disease prevention and treatment. As technology advances, the possibility of creating a more personalized and effective healthcare system becomes more feasible.

In conclusion, the future of technology in medicine promises to be bright. With continued investment in research and development, there will be even more innovations that will benefit patients and healthcare providers alike. As we look forward, it's clear that technology will continue to play a critical role in the delivery of healthcare in the coming years.
CLASSIFICATION OF CHOLESTEATOMA

Epitympanic cholesteatoma
- Lateral
- Anterior
- Posterior

Mésotympanic cholesteatoma

Hypotympanic cholesteatoma
The route of cholesteatoma is anterior to the malleus head with an extension into the supratubal recess. Facial nerve dysfunction may occur with these lesions.
ANTERIOR EPITYMPANIC CHOLESTEATOMA
POSTERIOR EPITYMPANIC CHOLESTEATOMA

From Prussack's space the cholesteatoma passes through the superior incudal space lateral to the incus body and then traverses the aditus and antrum to enter the mastoid.
POSTERIOR EPITYMPANIC CHOLESTEATOMA
The cholesteatoma is located between the pars flaccida of the tympanic membrane and the neck of the malleus.
LATERAL EPITYMPANIC CHOLESTEATOMA
The posterior portion of the pars tensa retracts into the mesotympanum and involves the sinus tympani and the facial recess.

- Type 1: The facial recess
- Type 2: The sinus tympani and the facial recess
MESOTYMPANIC CHOLESTEATOMA
HOLOTYMPANIC CHOLESTEATOMA

- Extension of a posterior mesotympanic
  - Cholesteatoma to the mastoid

- Extension of an epitympanic
  - Cholesteatoma in the mesotympanum
HOLOTYMPANIC CHOLESTEATOMA
THE DIFFERENT SURGICAL TECHNIQUES

Intact canal wall up – Closed technique

- Transcanal epitympanotomy
- CWU with anterior epitympanotomy
- CWU with posterior tympanotomy
- Combined approach

Canal wall down – Open technique

Obliteration technique
SURGICAL APPROACH ACCORDING TO THE TYPE OF CHOLESTEATOMA

Lateral epitympanic cholesteatoma
→ Transcanal epitympanotony

Posterior and anterior epitympanic cholesteatoma
→ CWU with anterior tympanotomy

Mesotympanic cholesteatoma
→ CWU with posterior tympanotomy

Holotympanic cholesteatoma
→ Open technique or combined approach
Lateral epitympanic cholesteatoma

Transcanal epitympanotomy

- An endaural incision is performed
- The superior part of the external auditory canal is drilled to visualize the lateral epitympanum
- Reconstruction of the lateral attic wall with bone or cartilage
RECONSTRUCTION ATTICALE

- Cartilage fin
TECHNIQUE
CHOLESTEATOMA AND SURGICAL STRATEGY

Anterior and posterior epitympanic cholesteatoma

Canal wall up technique with anterior epitympanotomy

- Removal of the incus, head of the malleus, attic bony plate, tensor fold
  - To improve accessibility
  - To create a new aeration pathway from the supratubal recess to the antrum
CHOLESTEATOMA AND SURGICAL STRATEGY

Mesotympanic cholesteatoma

Canal wall up technique with posterior tympanotomy

- Identification of the vertical (mastoid) segment of the facial nerve
- Opening of the facial recess and large posterior tympanotomy (extended facial recess)
CHOLESTEATOMA AND SURGICAL STRATEGY

Holotympanic cholesteatoma

Sclerotic mastoid

Open technique

Large mastoid

Combined approach
Anterior and posterior tympanotomy
- Lateral incision
- Skin dissection
- Cartilage removal
The obliteration technique consists of meticulous reconstruction and obliteration of the mastoid. Theoretically, the obliteration technique should not permit recurrent cholesteatoma to appear (as retraction pocket) and reduce the number of residual cholesteatoma due to wide exposure. It should avoid the disadvantage of open cavity:

- recurrent infection
- water intolerance
- caloric induced vertigo
- difficulty to wear hearing aid
OBLITERATIVE TECHNIQUE

- FELDMANN 1978
- MERKE 1987
- GANTZ 2005
- VERCRUYSSE 2008

[Diagram showing muscle, fascia, bone chips, and cartilage]
SURGICAL PROCEDURE

- Canal wall up technique (Closed technique)
  587 (82 %)

- Open technique
  130 (18 %)

717 cases
SURGICAL PROCEDURE
CLOSED TECHNIQUE

- Posterior tympanotomony (16 %)
- Combined approach: anterior & posterior (65 %)
- Anterior tympanotomony (19 %)

587 cases
RESULTS

By selecting the most appropriate approach, the percentage of residual cholesteatoma decrease.
Thank you for your attention

IFOS WORLD MASTER COURSE ON HEARING REHABILITATION