CWD MASTOIDECTOMY

Objectives

- Eliminate disease
- Restore function
- Avoid complications
  - Residual Cholesteatoma
  - Recurrent Cholesteatoma
  - Cavity symptomatology
  - Other

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Causes of open cavity/CWD surgery problems. 1 Poorly cleared infection / cholesteatoma. 2 Large cavity. 3 High VII ridge. 4 Ischaemic/respiratory epithelial lining. 5 Inaccessible disease.
Troublesome Cavities

Aetiology

Avoidable
- Large cavity
- Rough lining
- High VII ridge
- Exposed respiratory epithelium
- Small meatus
- Uncleared cells
- Inaccessible cavity

Unavoidable
- Failed epithelial migration
- Ischaemic tissue
- Fungal infection
- Non-compliance
CWD cavity. Grossly inadequate clearance of cholesteatoma matrix; desquamating epithelium in the upper mesotympanum, attic and aditus.
Gross granulations in the posterosuperior open cavity of a Rt CWD site; uncleared sinodual angle cells.
A large Rt open cavity site with multiple granulation sites and accumulated infected and necrotic keratin debris. Uncleared cells.
Aspergillus nigra contaminating a myringitic open cavity. The required protracted meticulous suction toilet or wet mopping may cause severe caloric-induced vertigo.
Diffuse myringitis covering the facial ridge and bowl of a CWD site, due to combined ischaemia, exposed respiratory epithelium and accompanying biofilm pathology.
An extensive and diffusely myringitic open cavity, resulting from chronic ischaemia of the cavity lining and resultant breakdown and biofilm formation.
Intractable Aspergillus infection of a larger CWD site. Inability to access the deeper sections of the site, particularly the mastoid tip, hinders fungal eradication.
Diffuse Aspergillus flavum dispersed throughout a Rt CWD site.
Aspergillus flavum infection of open cavity debris. The problem is exacerbated by the open drum defect.
Extensive respiratory epithelium, resulting from CWD management of a diffusely cellular and aerated mastoid. The susceptible lining is subject to repeated infection.

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Similar phenomenon. The entire cavity is lined with disease-prone respiratory epithelium, derived from uncleared or non-sealed residual air cells. Lining the site with a vascularised fascia flap or wing flap may have avoided the problem.
Exposed respiratory epithelium in the posterior mesotympanum and attic as a result of failure to graft the site during CWD surgery. Infection prone.
A classic radical mastoidectomy. Poor cavity healing and the neglected drum perforation combine to leave the site perpetually infected and deafened.
Total degradation of a mastoid cavity, causing perpetual foul otorrhoea. Disease clearance back to healthy bone and a wall reconstruction are appropriate.
Chronic infection secondary to a retained high facial ridge. This precludes adequate access to clean the deeper recesses leading to debris accumulation and sepsis.
A CWD site with combined drum perforation and high attic ridge. The former is prone to infection, the latter to retained keratin and infection.
A very high facial ridge cavity with a deep mastoid cavity site. Visualisation of the latter is impeded, particularly if the EAC introitus is narrow, impeding suction toilet.
Gross fibrotic webbing of this CWD site interrupts epithelial migration causing keratin build-up. A significant pearl of cholesteatoma obscures the stapes site.
A large pearl of residual cholesteatoma, obliterating the oval window recess and eroding the superstructure. The mastoid cavity is limited in size and self-cleaning.
Atticotomy. Failure to seal the EAC defect has lead to chronic infection from the exposed respiratory epithelium, and a pocket is forming into the aditus.
A small atticotomy site with an ungrafted drum remnant and exposed cavity, degenerating into a chronically infected state.
A small, poorly cleared atticotomy cavity. Recurrent cholesteatoma has formed and will require revision surgery, preferably with a wall reconstruction and tympanoplasty.
An atticotomy site 3 yrs after initial surgery. Recurrent cholesteatoma and chronic infection have intervened, necessitating revision surgery.
Debris occluding a large CWD site on the left. A mass of keratin with only sparse aeration is seen, and will predispose to major infection in time, if left.
Bilateral CWD open cavities. Keratin evident in the right cavity. Clearance by suction toilet will cause distressing vertigo due to the large lateral canal fistula.
Second frame of the previous case demonstrating the Rt LSCC fistula defect, and similar pathology on the left.
Axial view of the previous case. Management of such cases by ICW vs CWD remains controversial.
CWD site revealing a large LSCC fistula, fortunately in a largely self cleaning and non-infected cavity.
Rt CWD 20 years before, site not monitored since. “Bell’s palsy” noted 3/12 before presentation.
Inclusion cholesteatoma in the open cavity of the previous case. Major erosion of the otic capsule.
Second view, showing extensive erosion of the Rt LSCC.
Previous case, fistula found at surgery, VII arrowed.
BIPP Dressings in an open cavity mastoidectomy site after recent CWD surgery.
Gross iodine hypersensitivity, postoperative case. Use of BIPP (bisthmus, iodoform and paraffin paste) in an open cavity mastoidectomy.
A postaural fistula after a CWD procedure many years before.
Post-CWD mastoidectomy. Open postaural fistula into the cavity.
A large conchal bowl defect after a Korner-type meatoplasty performed in the course of a CWD procedure, designed to permit better access for subsequent cavity cleaning.
A giant EAC introitis, viewed from outside the ear. An unacceptable cosmetic and functional result, revealing an unhappy otological outcome.