THE MANAGEMENT of COMPLICATED OTITIS MEDIA

IFOS, Dubaï, 2019

VINCENT C COUSINS

ENT-Otoneurology Unit, The Alfred Hospital &
Department of Surgery. Monash University
MELBOURNE, AUSTRALIA
Otologic Complications

- Mastoiditis
- Facial Palsy
- Labyrinthitis
- Fistula to External Canal
- Apical Petrositis
- Skull Base Osteitis
- Cellulitis / Perichondritis
Intracranial Complications

- Meningitis
- Extradural / Perisinus Abscess
- Subdural Empyema
- Brain Abscess
- Brain Herniation
- Benign Intracranial Hypertension
- Lateral Sinus Thrombosis
- Otitic Hydrocephalus
- Cavernous Sinus Thrombosis
Otitis Media with Complication

*Presenting Symptoms*

**OTOLOGIC**

- Acute or Chronic Setting
- Pain
- Vertigo
- Persisting Fever

**NEUROLOGICAL**

- Headache / Photophobia
- Visual Symptoms
- Neurological Symptoms
Otitis Media with Complication

**Signs on Examination**

**OTOLOGIC**

- Acute OM / Tender Mastoid / Abscess
- CSOM / Cholesteatoma
- Fistula Test
- Facial Palsy

**NEUROLOGIC**

- Papilloedema
- Neurological Signs / Seizures
- Change in Conscious State
Otitis Media with Complication

*Investigations*

High Resolution CT Scan with IV Contrast
- *Not routine in Children*

MRI / MRV

Audiometry

Microbiology - *Ear & Blood*

Septic Workup

General Workup - *Diabetes / HIV / etc*

Facial Nerve / Vestibular Tests if necessary
Otologic Complications

• Mastoiditis
• Facial Palsy
• Labyrinthitis
• Fistula to External Canal
• Apical Petrositis
• Skull Base Osteoitis
• Cellulitis / Perichondritis
Acute Otitis & Mastoiditis in Children

- Changing pattern of antibiotic use
  > 60% Acute OM resolves in 24-48 hrs
- Guidelines: Use antibiotics if
  < 6 month old
  not resolving
  other complications
- No increase in Acute Mastoiditis
  despite definite decrease in antibiotic treatment of Acute OM
Acute Mastoiditis in Children

• Initial IV antibiotic treatment
  35% will resolve
  65% intervention
    - 30% Vent Tube + Asp.
    - 25% Vent Tube + Incision
    - 10% Mastoidectomy

• CT & Mastoidectomy if
  - Cholesteatoma
  - Complication
  - > 8yo
Otologic Complications

- Mastoiditis
  - Acute
  - Abscess
  - Sub-acute
- Facial Palsy
- Fistula to EAC
- Apical Petrositis
- Skull Base Osteomyelitis from ChOM
Otitis Media & Facial Palsy

Treatment

Acute OM

Ventilation Tube + IV Antibiotics

CSOM

Canal Wall Up Mastoidectomy
+ nerve decompression

Cholesteatoma

Canal Wall Down Mastoidectomy in most cases
+ nerve decompression
Inner Ear Fistulae

*Sites of Erosion*

- Lateral SCC
- Lat + Post SCC
- Lat + Sup SCC
- Lat + Post + Sup SCC
- Lat + Vestibule
- Sup + Vestibule
- Vestibule
- Cochlea
Inner Ear Fistula Management

- Suspect in any Chronic Ear
- < 50% have +ve Fistula Test Clinically
- Leave alone if Only Hearing Ear**
- If useful hearing- *Dissect last, under saline*
- Must Clear all disease
- Chronic fistulae *can be cleared safely*
- Repair with tissue and bone pate
- Labyrinthectomy if necessary
Intracranial Complications

- Meningitis
- Extradural / Perisinus Abscess
- Subdural Empyema
- Brain Abscess
- Brain Herniation
- Benign Intracranial Hypertension
- Lateral Sinus Thrombosis
- Otitic Hydrocephalus
- Cavernous Sinus Thrombosis
## Intracranial Complications

### Source of Infection

<table>
<thead>
<tr>
<th>Infection</th>
<th>Source of Infection</th>
</tr>
</thead>
</table>
| Meningitis         | Acute OM
|                    | Mondini Deformity   |
|                    | CSOM                |
| Brain Abscess      | Acute OM
|                    | CSOM                |
|                    | Cholesteatoma       |
|                    | Past Radiotherapy   |
Brain Abscess

Cerebral or Cerebellar
Can be multiple
Mostly require surgical treatment

*Craniotomy*

*Burr Hole + Drainage for small abscess*

Ear / Mastoid Management at same sitting
Brain Abscess

• Cerebral or Cerebellar
• Can be multiple
• Mostly require surgical treatment

  Craniotomy

  Burr Hole + Drainage for small abscess

• Ear / Mastoid Management at same sitting

“Never let the sun set on a Brain Abscess”
Lateral Sinus Thrombosis

- Acute or Chronic Otitis Media *Cholesteatoma is common cause*
- Pain / Headache / Fever
- Poor general health / immunosuppression
- Anaerobes & Gram Negative *or* Gram Positive
- Blood Cultures +ve
- Associated complications in Ear & Brain
- CT +/- MRI for diagnosis
Lateral Sinus Thrombosis

Management

• Surgery of Primary Ear Disease
• Appropriate IV Antibiotics
• Controversies
  - Thrombectomy
  - Anti-coagulation
  - IJV Ligation
• Must Follow to Full Resolution
Otitis Media with Complication

Conclusions

• Complications of Otitis Media still occur
• High Index of Suspicion is required
• Often Multiple in the One Patient

  If one complication – look for others

• Full Investigation - CT / MRI
  - Microbiology

• Early Intervention
• Repeat surgery if necessary
• Follow to Full Resolution