THE MANAGEMENT of COMPLICATED OTITIS MEDIA

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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

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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

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Intracranial Complications

Source of Infection

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