

**THE MANAGEMENT
of
COMPLICATED OTITIS MEDIA**

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&

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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

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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

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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