

**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**

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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