🎧 ACUTE SUPPURATIVE OTITIS MEDIA (ASOM)

🧾 Example Case Scenarios

Case 1

A 5-year-old child presents with fever and right-sided otalgia for a few days. Otoscopy: hyperemic tympanic membrane, Weber lateralized to right ear.

Case 2

A 4-year-old child with left ear pain, crying and unable to sleep. History of coryza for 2 days. Temperature 102°F. Otoscopy: red and bulging tympanic membrane.

Case 3

An 8-year-old girl presents with severe right ear pain, high-grade fever for 3 days. Otoscopy: congested and bulging tympanic membrane, tenderness over mastoid. Rinne negative, Weber lateralized to affected ear. History: mouth breathing and snoring.

Classic Acute Suppurative Otitis Media — often post-viral upper respiratory tract infection in children.

🧠 Diagnosis

Acute Suppurative Otitis Media (ASOM)

Bacterial infection of middle ear with pus formation, commonly in children <3–8 years.

📖 History Features

- Age: under 3–8 years at greater risk
- Earache (otalgia)
- Fever
- Disturbed sleep / irritability in children
- Deafness / hearing loss
- Tinnitus
- Vomiting, occasionally convulsions

- Often follows viral upper respiratory infection (URTI)

🔎 Examination

- Tympanic membrane:
  - Retracted initially with handle of malleus in horizontal position
  - Hyperemic and bulging
  - Loss of light reflex
  - Pars tensa congestion
  - Leash of blood vessels along handle of malleus
  - Cartwheel appearance at periphery
  - Loss of landmarks
  - Yellow spot → site of imminent rupture
- Tenderness over mastoid antrum
- Tuning fork tests:
  - Weber lateralized to affected ear
  - Rinne negative
  - Conductive hearing loss

🧪 Investigations

Investigation	Findings / Role
X-ray mastoid air cells	Clouding due to exudate accumulation
PTA / Tuning fork	Confirms conductive hearing loss

Common Causative Organisms

- Streptococcus pneumoniae
- Haemophilus influenzae

💊 Management

❑ Antibacterial Therapy

- Standard antibiotics: Ampicillin, Amoxicillin, Cefaclor, Cotrimoxazole, Erythromycin
- For beta-lactamase-producing bacteria (H. influenzae, M. catarrhalis):
    - Amoxicillin + Clavulanate (Augmentin)
    - Cefuroxime, Cefixime
- Indicated in severe fever, earache, or high-risk children

2️⃣ Decongestants

- Nasal drops: Ephedrine, Oxymetazoline, Xylometazoline
- Oral: Pseudoephedrine, combination decongestants + antihistamines (Triominic)

3️⃣ Symptomatic Treatment

- Analgesics / Antipyretics → Paracetamol
- Ear toilet → remove discharge
- Dry local heat

4️⃣ Surgical Intervention

- Myringotomy: Indicated when:
  - Drum is bulging with acute pain
  - Incomplete resolution despite antibiotics
  - Persistent effusion beyond 12 weeks

🗂️ Management Flowchart

Child with fever + ear pain + URTI history → Otoscopy: Red, bulging TM → Start antibiotics → Decongestants (nasal / oral) → Analgesics / antipyretics → Ear toilet + dry heat → If bulging persists or severe pain → Myringotomy

---

⚠️ Complications if Untreated

Complication	Mechanism
Acute mastoiditis	Spread of infection to mastoid air cells

Subperiosteal abscess	Pus accumulation under mastoid periosteum
Facial paralysis	Involvement of CN VII
Labyrinthitis	Spread to inner ear → vertigo, hearing loss
Petrositis	Infection of petrous part of temporal bone
Meningitis	Intracranial extension
Brain abscess	Rare but severe
Lateral sinus thrombophlebitis	Thrombosis of lateral sinus

Two points to confirm complete recovery in ASOM

i) Tympanic membrane: Normal and intact

ii) Hearing: Fully restored

🎯 Exam Pearls

⭐ Most common in children <3–8 years, often post-URTI
⭐ Red, bulging tympanic membrane → hallmark sign
⭐ Yellow spot = site of impending rupture
⭐ Tenderness over mastoid → early mastoiditis
⭐ Weber lateralized, Rinne negative → conductive hearing loss
⭐ Antibiotics + symptomatic care usually sufficient
⭐ Myringotomy if severe / persistent effusion

Acute Suppurative Otitis Media with Intratemporal Complications (Acute Mastoiditis)

🧾 Example Case Scenarios

Case 1

A 7-year-old boy with fever, severe right ear pain, mucopurulent discharge, and facial nerve palsy for 4 days. Examination: tender swelling over right mastoid, tympanic membrane congested and bulging.

Case 2

Ahmed, 24 years old, presented with right earache, high-grade fever, and mastoid pain. History: flu one week ago.

> Classic ASOM with intratemporal complication (acute mastoiditis) — often a post-URTI complication in children and young adults.

🧠 Diagnosis

Acute Suppurative Otitis Media (ASOM) with Intratemporal Complication — Acute Mastoiditis

Infection of middle ear extending to mastoid air cells, may involve facial nerve or inner ear structures.

📖 History Features

- Common in infants and young children
- Often follows URTI / flu
- Stages of ASOM progression:

1️⃣ Tubal Occlusion Stage

- Earache, hearing loss, mild fever
- Tympanic membrane retracted, malleus horizontal

2️⃣ Pre-suppuration Stage

- Throbbing earache, tinnitus, hearing loss, high fever
- TM congested, leash of vessels along malleus, cartwheel appearance

3️⃣ Suppuration Stage

- Severe earache, excruciating pain, high fever, vomiting
- TM red, bulging, yellow spot indicating impending rupture

4️⃣ Resolution Stage

- Pus discharge through perforation
- EAC may show blood-stained discharge

5️⃣ Mastoiditis Stage (Intratemporal Complication)

- Pain behind ear, swelling of mastoid (iron-like feel)
- Sagging posterosuperior meatal wall
- Purulent or mucopurulent discharge
- TM may be perforated or dull
- Conductive hearing loss
- Possible facial nerve involvement

🔎 Examination

Stage	Findings on Otoscopy & Tuning Fork Tests

Tubal Occlusion	TM retracted, loss of light reflex, conductive hearing loss
Pre-suppuration	TM congested, cartwheel pattern, conductive hearing loss
Suppuration	TM red & bulging, loss of landmarks, yellow spot
Resolution	Blood-stained discharge, TM perforation in anteroinferior pars tensa
Mastoiditis	Mastoid tenderness, swelling, sagging meatal wall, purulent discharge, TM dull or perforated, conductive hearing loss

---

🧪 Investigations

Investigation	Findings / Role
X-ray mastoid	Clouding of air cells due to exudate
CT temporal bone	Extent of air cell involvement

Blood count	Polymorphonuclear leukocytosis
ESR	Raised
Ear swab C/S	Identify causative bacteria

💊 Management

🩺 Medical Management

- Hospitalization
- Antibiotics:
  - Ampicillin, Amoxicillin
  - Cotrimoxazole (penicillin allergy)
  - Beta-lactamase producers: Amoxicillin-Clavulanate, Cefuroxime, Cefixime
- Decongestants: Ephedrine, Oxymetazoline, Xylometazoline
- Analgesics / Antipyretics: Paracetamol

- Antihistamines / Oral decongestants: Pseudoephedrine, Triominic
- Ear toilet & hot fomentation

🔪 Surgical Management

- Myringotomy → relieve pressure, drain pus
- Cortical mastoidectomy → if mastoid involvement persists or abscess forms

---

🗂️ Management Flowchart

ASOM child / adult with earache + fever → Otoscopy: TM red & bulging → Start antibiotics + analgesics + decongestants + ear toilet → Monitor for mastoid tenderness or swelling → If mastoiditis suspected → CT scan / X-ray → Surgical intervention: Myringotomy or Cortical Mastoidectomy

---

⚠️ Complications

Intratemporal

- Mastoiditis
- Petrositis
- Labyrinthitis
- Facial paralysis

Intracranial

- Extradural abscess
- Subdural abscess
- Meningitis
- Brain abscess
- Lateral sinus thrombophlebitis
- Otitic hydrocephalus

🎯 Exam Pearls

⭐ Post-URTI earache with fever and mastoid tenderness → suspect mastoiditis

⭐ Facial nerve palsy indicates intratemporal

complication

⭐ Yellow spot on TM = site of impending rupture

⭐ Early antibiotics + myringotomy prevent progression

⭐ CT scan required to assess mastoid / temporal bone involvement

---

-> The End <-