

OTITIS MEDIA IN CHILDREN

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OTITIS MEDIA

- **Inflammatory disease process of the middle ear mucosa**
- **Second most common cause of pediatric visits to physicians**
- **Costs approximately \$3.5 Billion per year**
- **85% of children have otitis media at least once**

TYPES:

- **Acute: Up to 3 weeks**
- **Subacute: 3 weeks to 2 months**
- **Chronic: Longer than 2 months**
- **Classification of the Fourth International Symposium on Otitis Media 1987.**

ACUTE OTITIS MEDIA

- **Overall prevalence: 15% to 20%**
- **50% to 70% of children have at least one episode of AOM by the third year**

RISK FACTORS:

- Host factors: (URI, allergy, adenoidal hypertrophy)**
- Environmental factors: (Day care, smoking, familial)**

PATHOPHYSIOLOGY

- **Eustachian Tube function:**
 - **Drainage and ventilation of middle ear**
 - **Protection of middle ear**
 - **Clearance of secretion from middle ear**

- **Eustachian Tube dysfunction:**
 - **Functional**
 - **Mechanical**
 - **Both**

- **Eustachian Tube in children vs. adults**
 - **Position: Horizontal (10 degrees vs. 45 degrees)**
 - **Size: Short and wide**
 - **Surrounding: Lymphoid tissue**

DIAGNOSIS:

- **History: URI, fever, irritability, pulling on ears...**

- **Physical Examination: Red bulging T.M., decreased mobility of T. M.**
 - **T. M. mobility is approximately 88% accurate**
 - **Redness is the poorest criteria**
 - **Pain and fever are variable**

TREATMENT:

ANTIBIOTICS

- **Amoxicillin**
- **Erythromycin/Sulfisoxazol**
- **Trimethoprim-Sulfamethaxazole**
- **Cefaclor**
- **Amoxicillin-clavulanate**
- **Cefixime**
- **Cefuroxime axetil**

PROGNOSIS:

- **Subjective Improvement: 48 hours - 72 hours**
- **90% will have resolution of any associated MEE within 3 months**
- **Infants with AOM within the first year have higher incidence of recurrence**

OTITIS MEDIA WITH EFFUSION - SEROUS (OME)

- **Presence of non-suppurative middle ear effusion**
- **Most common cause of hearing loss in children**

NONMENCLATURE:

- **Secretory otitis media**
- **Chronic otitis media with effusion**
- **Serous otitis media**
- **Non suppurative otitis media**
- **Glue ears**
- **Others**

PATHOGENESIS:

1. **Eustachian Tube Dysfunction**
2. **Role of AOM**
3. **Role of allergy**
4. **Others**

DIAGNOSIS:

- **History:** (Hearing problem, episode of AOM....)
- **Physical Examination:** (Air bubble, air-fluid level, and mobility)

TREATMENT:

MEDICAL

- Antibiotics
- Steroids
- Decongestant/antihistamines
- Allergy RX

SURGICAL

- Pressure equalizing tubes
- Adenoidectomy

MEDICAL TREATMENT:

- Antibiotics - Same as AOM (3 to 4 weeks)
- Corticosteroids- Controversial - only in specific cases for short period with antibiotics.

SURGICAL TREATMENT:

Pressure Equalizing Tubes (PETS)

- Most common surgery in children performed under GA
- Two million tubes inserted in the U.S. every year
- **Rationale:**
 - "Artificial" Eustachian Tube - Prevent OME complications
 - Restore hearing
 - Control recurrence
 - Prevent OME complications

ADENOIDECTOMY:

- **If child has associated UAO secondary to adenoidal hypertrophy**
- **Reinsertion of PET for recurrent OME**
- **Initial procedure with PET in children 4 to 8 years of age**

RECURRENT OME

- **3 episodes of AOM per 6 months or 4 episodes of AOM per one year**
- **Recurrent AOM may superimpose on chronic OME if effusion persists**
- **Antibiotic Prophylaxis**
 - **Need for broad spectrum antibiotics**
 - **May lead to resistant bacteria**
 - **Drug reaction**
 - **Suppression of symptoms without affecting disease process**

CHRONIC OTITIS MEDIA

- **The stage of otitis media that has irreversible sequelae or pathology:**
 - **Perforated TM**
 - **Ossicular erosion**
 - **Atelectasis**
 - **Tympanosclerosis**
 - **Granulation tissues**
 - **Cholesterol granuloma**
 - **Cholesteatoma**

COMPLICATIONS OF OTITIS MEDIA

ACUTE OTITIS MEDIA

- **Intratemporal**
- **Intracranial**
- **Systemic**
- **Hearing loss**

OTITIS MEDIA WITH EFFUSION-SER.

- **Hearing loss**
- **Developmental**
- **Tympanic membrane disease**

OME AND HEARING LOSS:

- **Can lead to language based learning disabilities and subsequent impact on I.Q.**
- **Speech developmental delay**
- **Hearing loss early in infancy may lead to impairment of cognitive ability even if hearing is corrected later in life**

CONCLUSIONS: