Clinical Guideline

ACUTE OTITIS MEDIA MANAGEMENT GUIDELINE

SETTING
Children’s Emergency Department, Bristol Royal Hospital for Children

FOR STAFF
Clinicians (Emergency Nurse Practitioner & Doctors)

PATIENTS
Children attending CED who are diagnosed with Otitis Media

GUIDANCE

Acute otitis media (AOM) is defined as the presence of inflammation in the middle ear, associated with an effusion and accompanied by the rapid onset of symptoms and signs of an ear infection.

Diagnosis:
- Diagnose acute otitis media if there is:
  - Acute onset of symptoms, including:
    - In older children and adults — earache.
    - In younger children — pulling, tugging, or rubbing of the ear, or non-specific symptoms such as fever, irritability, crying, poor feeding, restlessness at night, cough, or rhinorrhoea.
  - On examination:
    - A distinctly red, yellow, or cloudy tympanic membrane.
    - Moderate to severe bulging of the tympanic membrane, with loss of normal landmarks.
    - An air-fluid level behind the tympanic membrane.
    - Perforation of the tympanic membrane and/or discharge in the external auditory canal.

In children younger than 6 months of age (and particularly younger than 3 months of age), diagnosis can be difficult because:
- There may be coexisting systemic illness, such as bronchiolitis or bacteraemia.
- Symptoms are likely to be non-specific.
- The tympanic membrane may not be visible; it often lies in an oblique position and the ear canal is small and tends to collapse.

Criteria for Admission Assessment:
- Children Under 3 months with temperature of 38°C or more – Paediatric assessment required for admission.
- Complications of (AOM) such as meningitis, mastoiditis, or facial nerve paralysis – Require admission. (see below)

- Consider admitting:
  - People who are systemically very unwell.
  - Children younger than 3 months of age.
  - Children 3–6 months of age with a temperature of 39°C or more.
Treatment:

- **Treat Pain and Fever**
- **No antibiotic or delayed antibiotic prescribing.**
  - Advice to re-consult if the condition worsens or if symptoms are not improving within 4 days of the onset of symptoms. (Antibiotics may then be prescribed)

**When to give antibiotics:**

**Offer an immediate antibiotic prescription to people:**

- Who are systemically unwell but do not require admission.
- Who are at high risk of serious complications because of significant heart, lung, kidney, liver, or neuromuscular disease; or who are immunocompromised.
- Whose symptoms have lasted for 4 days or more and are not improving.

  - Depending on severity, consider offering an immediate antibiotic prescription to children:
    - Younger than 2 years of age with bilateral AOM.
    - With perforation and/or discharge in the ear canal.

See [empirical antibiotic guideline](#) for choice and length of antibiotic course.

Routine follow up is not required.

**Prognosis**

Without antibiotic treatment, AOM symptoms improve in 24 hours in 60% of children, and symptoms settle spontaneously within 3 days in 80% of children. (Venekamp et al 2014)

**Complications of AOM**

AOM can affect speech and hearing (Brouwer et al 2005)

- Acute Mastoiditis (1-2/10,000 children)
- Meningitis
- Intracranial complications

The Headache and fever are the most frequently observed early manifestations of complications associated with otitis media. Other manifestations are as follows:

- Severe otalgia
- Vertigo
- Lethargy
- Nausea and vomiting
- Mental status changes
- Fetid otorrhoea

The following signs or symptoms are suggestive of intracranial complications:

- Fever associated with a chronic perforation
- Lethargy
- Focal neurologic signs (e.g. ataxia, oculomotor deficits, seizure)
- Papilloedema
- Meningism
- Altered mental status
- Severe headaches

The following signs or symptoms are suggestive of extracranial complications:

- Fever associated with a chronic perforation
- Postauricular oedema or erythema
- Facial nerve paresis or paralysis
- Fetid otorhoea
- Retro-orbital pain on the side of the infected ear
- Vertigo
- Spontaneous nystagmus associated with sensorineural hearing loss
- Infected ear

Presentation of intracranial complications includes the following:

- Brain abscess - Fever, possibly seizures or focal neurologic signs, headache
- Meningitis - Fever, meningism
- Otitic hydrocephalus - Headache, signs of increased intracranial pressure in the setting of otitis media
- Sigmoid sinus thrombosis - Spiking fever, otitis media, edema and tenderness over mastoid cortex, headache

Presentation of extracranial complications includes the following:

- Labyrinthitis - Fever, nystagmus, serous or suppurative otitis media
- Mastoiditis with subperiosteal abscess - Fever, fluctuance overlying the mastoid area, lateral displacement of pinna, otitis media
- Petrositis - Retro-orbital pain, otorhoea, abducens paralysis, fever

Risk for complications associated with otitis media increases if an acute episode of otitis media persists longer than 2 weeks or if symptoms recur within a 2-to 3-week period.(Eaton 2015)

Differential diagnosis

- **Other upper respiratory tract infections** — mild redness of the tympanic membrane may be seen.
- **Otitis media with effusion (glue ear)** — fluid in the middle ear without symptoms or signs of acute inflammation of the tympanic membrane. See the CKS topic on Otitis media with effusion for more information.
- **Chronic suppurative otitis media** — persistent inflammation and perforation of the tympanic membrane with draining exudate for more than 2 weeks. There may be associated cholesteatoma. See the CKS topics on Otitis media - chronic suppurative and Cholesteatoma for more information.
- **Bullous myringitis (rare)** — haemorrhagic bullae (blisters) on the tympanic membrane caused by *Mycoplasma pneumoniae* (90% spontaneous resolution rate).
References:


Medscape http://emedicine.medscape.com/article/860323-overview#a4

RELATED DOCUMENTS

NICE Clinical Knowledge Summaries GUIDELINES JULY 2015 - Otitis Media Acute

SAFETY QUERIES

Contact 28666 speak to Consultant/Senior Registrar