

DST-203 Otitis Media Acute: Adult

DEFINITION

Acute inflammation or infection of the middle ear. It is less common in adults than children.

POTENTIAL CAUSES

- Viral
- Bacterial forms due to *Streptococcus pneumoniae*, *H. influenzae*, *Moraxella catarrhalis*, Group A beta-hemolytic streptococcus, staphylococcus aureus
- Chlamydia (uncommon)
- Fungal infections such as candida, aspergillus (uncommon)

PREDISPOSING RISK FACTORS

- Eustachian tube dysfunction
- Upper respiratory infection
- Allergies
- Chronic sinusitis
- Cleft palate
- Immunosuppression
- Active or passive smoking

TYPICAL FINDINGS OF OTITIS MEDIA

History

- Otalgia (throbbing)
- Fever
- General malaise
- Sensation of fullness
- Hearing decreased
- Tinnitus or roaring in ear, vertigo
- History of upper respiratory tract symptoms
- Client may feel mildly or moderately ill

Physical Assessment

Refer to end of document, Appendix 1, *Guidelines for Pneumatic Otoscopy*

- Vital signs. May be febrile.
- Tympanic membrane red, dull, bulging
- Bony landmarks obscured or absent
- Purulent discharge if drum perforated
- Decreased mobility of tympanic membrane (pneumatic otoscope) (appendix 1)
- Bullae seen on tympanic membrane
- Peri-auricular and anterior cervical nodes enlarged and tender
- Wax and other debris should be removed from the ear canal to allow a clear view of the tympanic membrane

Diagnostic Tests

- Swab any drainage for culture and sensitivity

MANAGEMENT AND INTERVENTIONS

Goals of treatment

- Eradicate infection
- Relieve pain
- Prevent complications

Non-Pharmacological Interventions

- None

Pharmacological Interventions

- To relieve pain and fever:
 - acetaminophen 325mg, 1-2 tabs po q4-6h prn, or
 - ibuprofen 200mg, 1-2 tabs po q4-6h prn
- Oral antibiotic therapy:
 - amoxicillin 1 gm, po tid for 5 days, OR
 - doxycycline 200 mg PO once, then 100 mg po BID for 5 days

Failure of first line therapy:

- Amoxicillin-clavulanate 875 mg po bid for 10 days

In case of allergies to the above antibiotics, previous antibiotic use within a month, or unavailability of the previously listed antibiotics, consult with or refer to a physician or nurse practitioner.

Pregnant and Breastfeeding Women

- Acetaminophen, amoxicillin, and amoxicillin-clavulanate may be used as listed above.
- DO NOT USE ibuprofen or doxycycline.

POTENTIAL COMPLICATIONS

- Perforated tympanic membrane
- Reduced hearing
- Serous otitis media
- Mastoiditis (rare)
- Chronic otitis media
- Meningitis (rare)
- Epidural (brain) abscess
- Cholesteatoma

CLIENT INFORMATION AND DISCHARGE EDUCATION

- Recommend increased rest if febrile
- Counsel client about appropriate use of medication (dosage compliance and follow up)
- Explain disease course and expected outcome
- Recommend avoidance of flying until symptoms have resolved
- Recommend avoidance of swimming or scuba diving until symptoms have resolved.
- Counsel client to stop smoking

MONITORING AND FOLLOW-UP

- Re-examine patients with persistent pain or fever in 24-48 hours
- Return to clinic in three days if no improvement
- Follow up 10-14 days to look for development of serous otitis
- Assess hearing one to three months after treatment if any symptoms persist

CONSULTATION AND/OR REFERRAL

- No consult or referral needed if uncomplicated and responds to treatment
- If a perforation develops, consult with a physician or nurse practitioner.

DOCUMENTATION

- As per agency policy

REFERENCES

More recent editions of any of the items in the Reference List may have been published since this DST was published. If you have a newer version, please use it.

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- DynaMed. (2015, August 17). [Acute otitis media \(AOM\)](#).
- Limb, C. J., Lustig, L. R., & Klein, J. O. (2014). [Acute otitis media in adults \(suppurative and serous\)](#). *UptoDate*.
- Ramakrishnan, K., Sparks, R. A., & Berryhill, W. E. (2007). [Diagnosis and treatment of otitis media](#). *American Family Physician*, 76(11), 1650-1658.

APPENDIX 1

Guidelines for Pneumatic Otoscopy

Anyone can learn pneumatic otoscopy, but practice is needed. This method consists of applying air pressure to the tympanic membrane and watching the resultant movement.

- Tools: a battery-operated bright light with a well-charged battery and a hermetically sealed otoscope with pneumatic attachment
- Client must remain still during the examination (it may be necessary to restrain a child)
- Apply positive pressure (by squeezing a full bulb) and negative pressure (by releasing the bulb), and observe any movement of the eardrum
- Lack of movement implies the presence of fluid in the middle ear or chronic stiffness of the tympanic membrane