

Otitis Media: Review Questions

Paul F. Roberts, MD

QUESTIONS

Choose the single best answer for each question.

- Which of the following pathogens most commonly causes acute otitis media?**
 - Respiratory viruses
 - Haemophilus influenzae*
 - Moraxella catarrhalis*
 - Staphylococcus aureus*
 - Streptococcus pneumoniae*
- Which of the following is the most common intracranial complication of acute otitis media?**
 - Epidural abscess
 - Lateral sinus thrombosis
 - Brain abscess
 - Meningitis
 - Acute mastoiditis
- Which one of the following is the drug of choice for initial treatment of acute otitis media?**
 - Ciprofloxacin
 - Amoxicillin
 - Erythromycin
 - Azithromycin
 - Cefaclor
- Otitis media has occurred at least once in what percentage of 3-year-old children?**
 - 15%
 - 35%
 - 50%
 - 85%
 - 98%
- Which of the following environmental factors may increase the incidence of acute otitis media?**
 - Putting an infant to bed with a bottle
 - Cigarette smoke
 - Dust
 - Molds
 - All of the above
- Which of the following is the most prevalent complication of otitis media?**
 - Fluctuating or persistent hearing loss
 - Perforation of the tympanic membrane
 - Development of cholesteatomas
 - Chronic infection of the middle ear
 - None of the above
- In otitis media, the otoscope examination can reveal which of the following?**
 - An erythematous tympanic membrane
 - A bulging, immobile tympanic membrane
 - Loss of identifiable landmarks, such as the handle of the malleus
 - Perforation of the tympanic membrane
 - All of the above

(turn page for answers)

Dr. Roberts is an Instructor of Family Practice and a Senior Associate Consultant, Mayo Clinic, Jacksonville, FL.

EXPLANATION OF ANSWERS

1. **(E) *Streptococcus pneumoniae*.** *Streptococcus pneumoniae* is found in 40% of patients with acute otitis media. *Haemophilus influenzae* is the pathogen in 25% of cases and *Moraxella catarrhalis* is the pathogen in 12% of cases. *Staphylococcus aureus* occurs less frequently. Respiratory viruses may be found in up to 20% of cases.
2. **(D) Meningitis.** Epidural abscess, lateral sinus thrombosis, brain abscess, subdural empyema, and meningitis are all intracranial complications of acute otitis media; however, meningitis is the most common complication. Acute mastoiditis is characterized by erosion of the bony partitions between the mastoid air cells, which connect the middle ear to the mastoid portion of the temporal bone. Mastoiditis has become rare in the era of antibiotics.
3. **(B) Amoxicillin.** Amoxicillin is recommended for initial empiric therapy because it is inexpensive, effective, and convenient to administer. Higher dosages can provide expanded coverage of resistant *Streptococcus pneumoniae*. Erythromycin, azithromycin, and cefaclor can be used alternatively in communities with high bacterial resistance rates. Ciprofloxacin (a quinolone) is not indicated for children younger than age 18 years.
4. **(D) 85%.** Approximately 85% of children have had at least one episode of acute otitis media by the age of 3 years. Peaks occur from age 6 to 36 months and again at age 4 to 6 years. The incidence of acute otitis media is higher in male children, in lower socioeconomic groups, and in children with cleft palate. Incidence of acute otitis media is also higher in white populations than in black populations.
5. **(E) All of the above (putting an infant to bed with a bottle, cigarette smoke, dust, molds).** Cigarette smoke, dust, molds, and putting an infant to bed with a bottle are all environmental factors that increase the incidence of acute otitis media. The pathogenesis is probably related to a combination of factors; eustachian tube dysfunction and the child's susceptibility to upper respiratory infections are the most important factors.
6. **(A) Fluctuating or persistent hearing loss.** Perforation of the tympanic membrane, development of cholesteatomas, and development of chronic middle ear infections are all complications of otitis media. However, hearing loss is the most prevalent complication. Otitis media with effusion is characterized by the persistence of middle ear fluid, which can last for several months, even without other signs of infection. It is associated with a 25-dB hearing loss in the affected ear.
7. **(E) All of the above (an erythematous tympanic membrane; a bulging, immobile tympanic membrane; loss of identifiable landmarks, such as the handle of the malleus; perforation of the tympanic membrane).** Otitis media usually occurs 1 to 7 days following a nasopharyngitis. Vomiting, vertigo, tinnitus, and drainage of the ear are common. In otitis media the otoscope examination reveals a bulging, erythematous, immobile tympanic membrane, with loss of identifiable landmarks such as the handle and short process of the malleus. Perforation of the tympanic membrane can also occur. The normal tympanic membrane should appear translucent and should move freely to negative and positive pressure.

FAMILY PRACTICE

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