Otitis Media & Externa

Benjamin Bodnar, MD & Eugene Shapiro, MD

Be a good listener. Your ears will never get you in trouble. —Frank Tyger

Learning Objectives:
1. Describe the pathophysiology of acute otitis media (AOM), including the underlying anatomy, common pathogens, and natural history
2. Differentiate between mild and severe AOM utilizing history and physical exam findings
3. Develop a step-wise treatment approach including indications for observation or active treatment
4. Understand the possible complications of AOM, and indications for referral to specialty services
5. Differentiate otitis externa from AOM and describe pathogenesis, treatment, and indications for referral.

Primary References:

CASE ONE:
Your patient Otto Algia presents to the office for an acute visit. His mother is worried that he has an ear infection. The whole family has had symptoms including rhinorrhea and congestion. Otto’s older siblings are both in school. They developed symptoms first, roughly 5 days ago, and the remainder of the family a few days later.

1. What are a middle ear effusion and otitis media with effusion? What is the clinical definition of acute otitis media?

2. What are the risk factors for developing AOM?
3. How does AOM develop? What are the common pathogens for AOM?

CASE continued:

You examine Otto. Despite his illness, which has been characterized by 3 days of cough and congestion and low-grade fevers to 100.7, he has not been particularly fussy, and has continued to eat and drink normally. His mother believes that his ear pain started early this morning. On exam he is well appearing, though does not enjoy your otoscopic exam, especially on the right side. The left TM appears unremarkable. The right TM has mild bulging, and mild erythema. He does not tolerate pneumatic otoscopy.

4. Does Otto have AOM? What physical exam findings are the most predictive of bacterial infection?

5. How would you approach treatment if Otto were 7 months old? What if he were 4 years old?

6. What are the suggested antibiotic regimens? What about patients with penicillin allergies?
CASE TWO:

Rick Currence is 18 months old, and has also had several days of URI symptoms, including fever to 103. You have diagnosed him with AOM on 3 prior occasions. On exam you note bilateral bulging TMs, which appear cloudy, with decreased movement on pneumatic otoscopy.

7. What prophylactic measures are available for recurrent AOM, and when should you refer to a specialist for further management?

CASE THREE:

Eve Fusion is 6 years old, and presents to your office with 4-5 days of URI symptoms though no significant fever. Her mother states, “I’m really concerned about her because she has a very high pain tolerance and has been tugging on her ears.” She has been eating, attending school, and sleeping normally. A recent hearing and developmental screen was normal at her well child visit. On examination of her left ear, you find a translucent, retracted, poorly mobile TM, and a meniscus of clearish fluid behind the TM. Her right ear is similar in appearance.

8. What’s your diagnosis and approach to treatment?

CASE FOUR:

Dolores Pinna, an 8-year-old patient of yours, presents to your office in late August. Ever since her return from summer camp last week, she has complained of right ear pain and has had smelly yellow-green drainage. On examination, Dolores winces when you manipulate her pinna. You find a right tympanic canal that is boggy, erythematous, and purulent. What you can see of the TM appears intact, in normal position, without significant erythema or opacification.
9. What’s your diagnosis and treatment plan?

Additional References:

Resources: