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ANTIBIOTICS IN RESPIRATORY TRACT INFECTIONS***Lakshmi S. Velmurugan******Niveditha Thangamani**

Abstract: Respiratory tract infections are the commonest community-acquired infections and are classified as upper and lower respiratory tract infections. Viruses are the most common cause of most upper respiratory tract infections and among the bacteria, *Streptococcus pneumoniae*, *Hemophilus influenzae* and *Moraxella catarrhalis* are the common causative organisms. Amoxicillin is the drug of choice to cover these organisms and high-dose amoxicillin is preferred due to increasing penicillin resistance among pneumococci. Amoxicillin-clavulanate is preferred when *Hemophilus* is the suspected organism. *Streptococcus pyogenes* is the commonest organism for pharyngitis and hence, both penicillin and amoxicillin are preferred in these cases. Gram-negative coverage is usually not needed for upper respiratory tract infections while retropharyngeal abscess and Lemierre syndrome are the two conditions needing anaerobic coverage. Macrolides have no role in upper respiratory tract infections except in cases of diphtheria when the patient is allergic to penicillin. Community acquired pneumonia is also commonly caused by viruses, especially in infants. *Pneumococcus*, *Hemophilus influenzae*, *Mycoplasma*, *Chlamydia* and *Staphylococcus aureus* are the other causes. Amoxicillin is effective even in severe pneumonia. Azithromycin is used when atypical organisms are suspected, and vancomycin or clindamycin is added when Methicillin resistant *staphylococcus aureus* is suspected.

Keywords: Upper respiratory tract infections, Lower respiratory tract infections, Antibiotics.

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Points to Remember

- *In today's era of increasing antimicrobial resistance, our antibiotic regimens have to be narrow-spectrum; etiology and evidence based rather than conventional.*
- *In most of the cases since distinction between viral and bacterial etiology is not clearly evident, we rely on clinical scores and recommendations.*
- *In sinusitis, antibiotics are initiated when the three clinical criteria for ABS are fulfilled and in otitis media, factors considered are age, temperature and otalgia. High-dose amoxicillin is the drug of choice and amoxicillin-clavulanate is used when there is suspicion of *Hemophilus*.*
- *Pharyngotonsillitis is commonly caused by GAS. Modified Centor's scoring is used and cases are subjected to throat swab and started on penicillin or amoxicillin. Cases of diphtheria are treated with penicillin and anti-toxin.*
- *Though most pneumonia are caused by viruses, different organisms can be suspected based on age and clinical presentation. For most cases, empirical treatment is given with amoxicillin and macrolides are added when atypical organisms are suspected.*
- *Non-response or deterioration in any case warrants proper microbiological investigations and escalation of antibiotic regimen.*

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