

PEM QUIZ: RESPIRATORY EMERGENCIES

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1. The most concerning physical finding in an infant with an acute respiratory infection or RAD exacerbation is:
 - a) tachypnea
 - b) grunting
 - c) abdominal breathing
 - d) retractions
 - e) wheezing
2. All of the following are consistent with the diagnosis of bacterial tracheitis EXCEPT:
 - a) high fever
 - b) preceding viral URI
 - c) minimal sputum production
 - d) stridor
 - e) drooling
3. What proportion of bronchiolitis cases are caused by RSV?
 - a) 15%
 - b) 35%
 - c) 50%
 - d) 70%
 - e) 90%
4. Which of the following is the most likely diagnosis in a 6-week-old infant with a ten-day history of mild cough, who on examination is quietly tachypneic and afebrile:
 - a) FB ingestion
 - b) RSV/ bronchiolitis
 - c) chlamydia pneumonia
 - d) congenital airway anomaly
 - e) pertussis
5. The BEST induction agent for intubation of infants greater than 3-months-old with respiratory failure due to bronchiolitis is:
 - a) versed
 - b) etomidate
 - c) thiopental
 - d) ketamine
 - e) fentanyl
6. In the absence of other concerning associated signs, APNEA is defined as a respiratory pause of greater than:
 - a) 10 seconds
 - b) 15 seconds
 - c) 20 seconds
 - d) 30 seconds
 - e) 1 minute

7. Of the following causes of upper airway obstruction, which is LEAST likely to result in an acute, precipitous deterioration in the ED?
- croup
 - epiglottitis
 - foreign body ingestion
 - retropharyngeal abscess
 - smoke inhalation/ thermal injury
8. Which of the following is the LEAST LIKELY cause of stridor in an infant or child < 6 years old?
- bacterial tracheitis
 - retropharyngeal abscess
 - foreign body aspiration
 - croup
 - peritonsillar abscess
9. Which of the following is NOT associated with the need for admission in the context of an asthma exacerbation?
- Poor social situation
 - Failure to respond to bronchodilators and steroids
 - Altered mental status or fatigue
 - Pneumothorax on CXR
 - Pneumomediastinum on CXR
10. TRUE or FALSE: the administration of beta-agonists via MDI with a spacer has been shown to be as effective as the use of a nebulizer for the reversal of acute bronchospasm *in all age groups* (infants, children and adults).
11. All of the following are currently considered standard treatments for bronchiolitis EXCEPT:
- hydration (oral or IV)
 - trial of albuterol (via MDI or nebulized)
 - trial of racemic epinephrine (nebulized)
 - steroids (oral, IV or IM)
 - supplemental oxygen as needed
12. Compared with the adult airway, which of the following is NOT characteristic of the pediatric airway:
- more easily visualized with a straight (eg. Miller) blade
 - narrowest portion located at the cricoid cartilage
 - more posterior location
 - smaller diameter and shorter length
 - more easily obstructed by edema, secretions or posterior displacement of the tongue
13. TRUE or FALSE: oral dexamethasone is as effective as IM dexamethasone in the treatment of croup.
14. RSV testing would be LEAST helpful in the management of which of the following patients:
- 3-week-old neonate with nasal congestion and mild cough
 - 6-month-old ex-preemie with BPD and cough/congestion
 - 4-month-old previously healthy infant with significant URI Sx's and wheezing but no fever
 - 5-month-old intubated for respiratory failure with a peri-bronchial infiltrate on CXR
15. All of the following support a clinical diagnosis of pertussis EXCEPT:
- prolonged course
 - age < 4-years-old
 - history of incomplete vaccination
 - temperature > 101
 - elevated WBC with marked lymphocytosis

16. The most common CXR finding in infants with bronchiolitis is:
- normal
 - hyperinflation
 - atelectasis
 - focal infiltrate
 - pneumothorax
17. TRUE or FALSE: antibiotics given for “Whooping Cough” (pertussis) shorten the course of symptoms.
18. All of the following statements are true of croup (viral laryngotracheobronchitis) EXCEPT:
- it is most commonly caused by parainfluenza virus
 - it can easily be confused with bacterial tracheitis
 - it primarily affects children aged 6-36 month
 - it is characterized by a barking cough, hoarse voice and inspiratory stridor
 - symptoms are often worst at night
19. Regarding pneumonia in the neonate, all of the following are TRUE EXCEPT:
- maternally-acquired Group B Strep (GBS) remains the most common bacterial pathogen
 - mortality is low when promptly diagnosed and appropriately treated
 - viral etiologies are common
 - full sepsis work-up, including LP, is mandatory
 - admission and IV ampicillin & cefotaxime (or gentamicin) is required in all cases
20. Which of the following is the most likely cause of pneumonia in a generally well-appearing 8-year-old with a gradually progressive cough over two weeks and bilateral crackles on lung exam?
- Mycoplasma*
 - S. pneumoniae*
 - Klebsiella*
 - Pertussis
 - Influenza
21. All of the following are true of croup EXCEPT:
- first-line treatment includes steroids
 - oral steroids are as effective as parenteral steroids
 - racemic epinephrine need only be given to children with stridor at rest (while not agitated) or who appear to be in significant respiratory distress
 - well-appearing children with croup, who have improved after receiving nebulized racemic epinephrine, can safely be discharged within 1-2 hours of treatment

BONUS. A 3-week-old infant with several days of mild diarrhea and decreased oral intake presents with severe tachypnea, cyanosis and lethargy. The initial oxygen saturation is 87%, breath sounds are clear throughout and the cardiac exam is normal. Peripheral perfusion is poor (CR > 4 sec.) and the administration of 100% oxygen by face mask results in a saturation of only 94%. A portable CXR is normal. Of the following tests, which is MOST likely to reveal a diagnosis?

- ECG
- ABG
- echocardiogram
- RSV
- methemoglobin level