ACUTE COMMUNITY-ACQUIRED PNEUMONIA
Simple choice test (CS)

CS

1. Choose the statement that is not included in the list of clinical and morphological variants of community-acquired pneumonia in children:
A. Lobular pneumonia (bronchopneumonia)
B. Lobar pneumonia
C. Segmental pneumonia
D. Interstitial pneumonia
E. Chronic pneumonia

Cs

2. Choose the statement that is not a pathogenetic stage of pneumococcal pneumonia in children:
A. Latent infection stage
B. resolution
C. grey hepatization
D. red hepatization
E. Consolidation

Cs

3. Choose the clinical symptom specific for acute uncomplicated pneumonia in children:
A. Prolonged expiratory phase of breathing associated with grunting
B. Loud respiratory sounds
C. Increased movements of the chest wall in the affected area
D. Diffuse dry rales and wheezing
E. Localized moist small bubbling rales and crackles, that do not disappear after cough

Cs

4. Choose the most common organism which causes lobar pneumonia in children:
A. *Staphilococcus aureus*
B. *Haemophilus influenzae*
C. *Klebsiella pneumoniae*
D. *Streptococcus hemolyticus*
E. *Streptococcus pneumoniae*

Cs

5. Choose the basic diagnosis method used for children with community-acquired pneumonia:
A. Lung scintigraphy
B. Spirometry
C. Bronchoscopy
D. Chest X-Ray
E. Bronchography

Cs

6. Choose the sign that is not characteristic for segmental pneumonia in children:
A. May be affected one or several lung segments
B. Generally just a few clinical signs are present
C. Wheezing is a characteristic finding
D. Frequently associated with atelectasis
E. On chest X-ray may be found triangular opacity with its basis oriented to the lung hilum

CS

7. Choose the basic diagnosis method used to establish the etiology of community-acquired pneumonia in children:

A. Sputum microscopy
B. Qualitative bacteriological examination of sputum
C. Quantitative bacteriological examination of sputum
D. Immunofluorescence Assay of sputum
E. Cellular immunology examinations

CS

8. Choose the mode of infection in community-acquired pneumonia in children:
A. Aerogenous spread of infection
B. Lymphogenous spread of infection
C. Ascendent spread of infection
D. Spread of infection from pleura to the lung
E. Spread of infection from mediastinum to the lung

CS

9. Choose the first line antibiotic used for treatment of community-acquired pneumonia in children:
A. Amikacine
B. Co-trimoxazole
C. Amoxicillin
D. Doxycycline
E. Tetracycline

CS

10. Choose the optimal duration of antibiotic treatment for uncomplicated community-acquired pneumonia in children:
A. One more day after body temperature drops to normal level
B. Three days after body temperature drops to normal level
C. Five days after body temperature drops to normal level
D. Until the cough disappear
E. Until the complete resorption of lung infiltrates (opacities)

CS

11. Choose the etiology of atypical pneumonia:
A. *Haemophilus influenzae*
B. *Mycobacterium tuberculosis*
C. *Mycoplasma pneumoniae*
D. *Streptococcus pneumoniae*
E. *Pseudomonas aeruginosa*

CS

12. Choose the first choice antibiotic treatment for children with atypical pneumonia:
A. Macrolides
B. Second generation cephalosporins
C. Third generation cephalosporins
D. Aminoglycosides
E. Aminopenicillins

CS

13. Choose the antibiotic administration method in children with uncomplicated community-acquired pneumonia:
A. Intramuscular administration
B. Intravenous administration
C. Oral route of administration
D. Rectal administration
E. Intrapleural administration

CS

14. Choose the situation when deviation to the affected part is found in a child with complicated pneumonia:
A) Hemothorax
B) Pneumothorax
C) Hydropneumothorax
D) Lobar emphysema
E) Pulmonary atelectasis

CS

15. Choose the imaging study necessary to perform in a patient in order to confirm the pneumonia diagnosis:
A) Spirography
B) Bronchography
C) Chest X-Ray
D) Peak expiratory flow measurement
E) Lung scintigraphy

CS

16. Choose the antibiotic that is recommended for treatment of children with pneumonia caused by *Mycoplasma*:
A) Azithromycin
B) Cefotaxime
C) Tetracycline
D) Ampicilline
E) Cephalexin

CS

17. Choose the most frequent etiology of atypical pneumonia in school-aged children and adolescents:
A) *Legionella*
B) *Pneumocystis*
C) *Cytomegalovirus*
D) *Toxoplasma*
E) *Mycoplasma*

CS

18. Choose the most frequent etiology of community-acquired pneumonia in children from 1 to 5 years of age:
A) *Pseudomonas aeruginosa*
B) *Streptococcus pneumoniae* or *pneumococcus*
C) *Mycoplasma*
D) *Haemophilus influenzae*
E) *Klebsiella*

CS

19. Choose the antibiotic that is recommended for treatment of children with pneumonia caused by *Haemophilus influenzae* that produces beta-lactamases:
A) Phenoxymethylpenicillin (Penicillin V)
B) Amoxicillin and Clavulanic Acid
C) Amoxicillin
D) Ampicillin
E) Macrolides

CS
20. Choose the optimal duration of the antibiotic treatment with penicillins in cases of childhood pneumonia:
A) until body temperature reaches normal values
B) until the complete absorption (resorption) of the lung infiltrates
C) until a normal sedimentation rate level is reached
D) clinical improvement of the patient and 2-5 days of normal body temperature
E) the doctor decide in an agreement with the patient

CS
21. Choose the form of pleurisy when the analysis of the pleural fluid of the patient shows the following result: 80% lymphocytes, 15% neutrophils, 5% RBCs?
A) Purulent pleurisy
B) Serous pleurisy
C) Hemorrhagic pleurisy
D) Sero-hemorrhagic pleurisy
E) Fibrinous pleurisy

CS
22. Select the most probable cause of pleurisy in a child of 3 years of age, when the analysis of the pleural fluid shows predominantly neutrophil granulocytes:
A) Nonspecific bacterial etiology
B) Tuberculosis
C) Lung cancer
D) Obstructive bronchitis
E) Viral etiology

CS
23. Choose the most probable etiology pneumonia in children with immunodeficiency:
A) Pneumococcal pneumonia
B) Staphylococcal pneumonia
C) Mycoplasma pneumonia
D) Pneumocystis pneumonia
E) Viral pneumonia

Multiple choice test

Cm

1. Enumerate WHO diagnosis criteria for acute community-acquired pneumonia in children, recommended for the primary health care level:

A. Cough
B. Tachypnea
C. Presence of bronchial obstructive syndrome
D. Intercostal and subcostal chest retractions
E. Refusal to feed

Cm

2. Enumerate risk factors for community-acquired pneumonia in early childhood:

A. Malnutrition
B. Immunodeficiency
C. Formula feeding
D. Rickets
E. Prematurity

Cm

3. Enumerate characteristic signs for community-acquired pneumonia in early childhood:

A. Shortness of breath (dyspnoea)
B. Nasal flaring
C. Fine localized rales
D. Lung emphysema
E. Chest retractions

Cm

4. Enumerate statements that characterize metapneumonic pleurisy in children:

A. Develops simultaneously with the lung inflammatory process
B. Pleurisy develops in 2-3 weeks after pneumonia onset
C. Pleural effusion is mostly serous-fibrinous
D. The blood test reveals high leukocytosis and significantly increased erythrocyte sedimentation rate
E. Serological tests reveal increased levels of circulating immune complexes

Cm

5. Enumerate the most frequent etiological agents of community-acquired pneumonia in children:

A. *Streptococcus pneumoniae*
B. *Haemophilus influenzae*
C. *Mycoplasma pneumoniae*
D. The Enterobacteriaceae family
E. *Pseudomonas aeruginosa*

Cm

6. Enumerate findings characteristic for the alveolar condensation syndrome in community-acquired pneumonia in children:

A. Diffuse bilateral ronchi on lung auscultation
B. Localized sub-dulness on percussion
C. Prolonged expiratory phase of respiration
D. More intense vocal fremitus
E. Localized crackles on lung auscultation

Cm

7. Enumerate statements that describe failure of community-acquired pneumonia treatment:

A. Persistent febrile syndrome
B. Less intensive lung parenchymal infiltrates on the follow-up chest X-ray

C. Progressively increasing leukocytosis accompanied by a "left shift" in the ratio of immature to mature neutrophils
D. Worsening of the general condition of the patient
E. Progressive findings on lung examination

Cm

8. Enumerate statements that describe focal bronchopneumonia in children:
A. Evolution of the disease is characterized by predominant general signs comparing to local physical findings on lung examination
B. Represents one of the most frequent form of pneumonia in childhood
C. The inflammatory process has a bilateral, disseminated or paravertebral localization
D. Develops mostly in children older then 5 years of age
E. Radiological findings are characterized by opacities of 2-3 cm in diameter

Cm

9. Enumerate radiological findings on chest X-ray in children with uncomplicated of community-acquired pneumonia:
A. Lobular lung emphysema
B. Inflammation of the interlobal pleura
C. Increase in the density of the lung markings
D. Micronodular or macronodular opacities
E. Increased interstitial tissue density

Cm

10. Enumerate possible complications of community-acquired pneumonia in children:
A. Pleurisy
B. Purulent otitis
C. Bacterial meningitis
D. Atelectasis
E. Foreign body in the airways

Cm

11. Enumerate diseases to differentiate with community-acquired pneumonia in children:
A. Acute rhinopharyngitis
B. Pulmonary edema
C. Tuberculosis
D. Epiglottitis
E. Foreign body aspiration into the lower airways

Cm

12. Enumerate criteria for hospitalization of children with community-acquired pneumonia:
A. Age under 6 months
B. Bacterial extrapulmonary complications
C. Failure of the treatment initiated in outpatient settings
D. Children from unfavorable socio-economical environment
E. School-aged children with lobar pneumonia

Cm

13. Enumerate recommendations for medical follow-up of children after an episode of uncomplicated community-acquired pneumonia:
A. They should be monitored by the family doctor for 3 months
B. They should undergo repeated chest X-ray
C. They should perform pulmonary function tests
D. It is recommended to make a correction of nutritional defficiencies (anemia, rickets, etc.
E. It is recommended to fortify the body to fight off colds

Cm

14. Enumerate principles of community-acquired pneumonia treatment in children:

A. Methods of general care
B. Antihistamine treatment
C. Physical therapy
D. Etiologic treatment
E. Symptomatic treatment

Cm

15. Enumerate principles of the symptomatic treatment for community-acquired pneumonia in children:

A. Expectorants and mucolytic agents
B. Oral fluid therapy
C. Antipyretic medications in febrile syndrome
D. Respiratory kinetotherapy, postural drainage
E. Antihistamine treatment

Cm

16. Enumerate first choice antibiotic treatment for uncomplicated community-acquired pneumonia in children:

A. Oral aminopenicillins
B. Second generation cephalosporins, administered orally
C. Macrolides
D. Tetracycline, administered orally
E. Aminoglycosides, administered orally

Cm

17. Enumerate antibiotics used to treat for children with atypical pneumonia in children:

A. Ampicillin
B. Clarithromycin
C. Azithromycin
D. Spiramycin
E. Nitrofurantoin

Cm

18. Enumerate infectious agents that cause atypical pneumonia in children:

A. *Mycoplasma pneumoniae*
B. *Staphylococcus aureus*
C. *Streptococcus pneumoniae*
D. Escerichia coli
E. *Chlamydia pneumoniae*

Cm

19. Enumerate treatment recommendations for children with uncomplicated community-acquired pneumonia:

A. Intravenous or intramuscular antibiotics
B. Oral antibiotics
C. Cough Medicine (suppressants, expectorants, etc.)
D. Antibiotic therapy is for 21 days
E. Oral aminopenicillins are the first line antibiotics

Cm

20. Enumerate clinical signs that characterize exudative pleurisy in children:

A) Mediastinal displacement to the non-affected side
B) Mediastinal displacement to the affected side
C) Hyper-resonant sound at percussion on the chest
D) Vesicular breathing on lung auscultation
E) Decreased resonance of the sound at percussion on the chest

Cm
21. Enumerate risk factors for pneumonia in newborns:
A) Pneumopathy
B) Prematurity
C) Pregnancy toxicosis in the 1st trimester
D) Respiratory infections in a pregnant woman in the last weeks of pregnancy
E) Prolonged jaundice

Cm
22. Enumerate antibiotics recommended for treatment of children with staphylococcal pneumonia:
A) Penicillins
B) Chloramphenicol
C) Aminoglycosides
D) Cephalosporins
E) Fluoroquinolones

Cm
23. Enumerate antibiotics recommended for treatment of children with pneumonia caused by Gram-positive bacteria:
A) Amoxicillin
B) Gentamicin
C) Chloramphenicol
D) Tetracycline
E) Cefazoline

Cm
24. Enumerate etiological agents of lesions characteristic for complicated pneumonia in children:
A) *Streptococcus pneumoniae*
B) *Pseudomonas aeruginosa*
C) Streptococcus
D) *Staphilococcus aureus*
E) *Chlamydia pneumoniae*

Cm
25. Enumerate all possible diseases characteristic for *Chlamydia* infection:
A) Meningitis
B) Conjunctivitis
C) Urethritis
D) Pneumonia
E) Encephalitis

Cm
26. Enumerate clinical signs that may be present in a child with exudative pleurisy:
A) Frequent, annoying and painful cough
B) On lungs auscultation harsh, high pitch, low intensity breath sound
C) Chest expansion of one hemithorax is unequal during breathing phases
D) Ronchi on auscultation of the lungs
E) Dullness on percussion

Cm
27. Enumerate clinical and radiological signs of the pneumothorax in a child:
A) Worsening of dyspnea
B) Mediastinum shifted to the affected side
C) Mediastinum shifted to the unaffected side
D) Lack of bronchovascular and tissular markings of the lung on chest X-ray
E) On lungs auscultation decreased breath sounds above the affected area

Cm
28. Enumerate risk factors for the development of pneumonia in early childhood:
A) Insufficient maturation and differentiation of acini and alveoli
B) Rich vascularisation with blood and lymphatic vessels of the lung tissue
C) Decreased function of the epithelial cilia and reflector cough
D) Horizontal position of the ribs and insufficient development of intercostals muscles
E) Rapid respiratory rate

Cm
29. Enumerate diagnostic criteria for pneumonia in infants:
A) cough
B) chest retractions
C) respiratory rate more than 40 breaths per minute
D) fever
E) respiratory rate more than 50 breaths per minute

Cm
30. Enumerate antibiotics that may be used as a second line treatment for acute pneumonia:
A) Erythromycin
B) Gentamycin
C) Cefazoline
D) Clindamycin
E) Amoxicillin

Cm
31. Enumerate complicationsthat may develop in children with acute pneumonia:
A) Pleurisy
B) Atelectasis
C) Pyopneumothorax
D) Cardio-vascular syndrome
E) Neurotoxicity

Cm
32. Enumerate characteristic criteria for Mycoplasma pneumonia in children:
A) Seasonality (mostly in autumn)
B) Enlargement of cervical lymph nodes
C) Destruction of the lung tissue
D) Eosinophilia
E) Hepatosplenomegaly

Cm
33. Enumerate characteristic criteria for Chlamydia pneumonia in children:
A) Rhinitis may be associated
B) Conjunctivitis may be associated
C) Pyodermia
D) Enlargement of regional lymph nodes
E) evolution to necrosis of the lung tissue

Cm
34. Enumerate characteristic criteria for viral pneumonia in children:
A) Acute onset
B) Neurotoxicity
C) Cardiovascular complications
D) Neutropenia
E) Mostly slow and tenant evolution

Acute pneumonia

Simple complement

1. E
2. A
3. E
4. E
5. D
6. C
7. C
8. A
9. C
10. C
11. C
12. A
13. C
14. E
15. C
16. A
17. E
18. A
19. B
20. D
21. B
22. A
23. D

Multiple complement

1. A,B,D,E
2. A,B,D,E
3. A ,B ,C ,E
4. B,C,D,E
5. A,B,C
6. B,D,E
7. A,C,D,E
8. A,B,C,E
9. C,D,E
10. A,B,C,D
11. B,C,E
12. A,B,C,D
13. A,D,E
14. A,D,E
15. A,B,C,D
16. A,B,C
17. B,C,D
18. A,E
19. B,E
20. A,E
21. A,B,D
22. C,D
23. A,E
24. B,D
25. B,C,D
26. A,C,E
27. A,C,D,E
28. A,B,C,D
29. A,B,D,E
30. A,B,D
31. A,B,C
32. A,B,D,E
33. A,B,D
34. A,B,C,D