

Pathophysiology of pulmonary system 1

Test control

1. Respiratory failure is characterized by:

- 1) tachycardia 4) anemia
- 2) dyspnea 5) cyanosis
- 3) acid-base abnormality 6) changes in PaO₂ and PaCO₂

2. To the external respiratory failure the most likely indicate the followings:

- 1) dyspnea 4) hypercapnia
- 2) cyanosis 5) acidosis
- 3) hypoxemia 6) alkalosis

3. The acute respiratory failure in compensatory stage is characterized by:

- 1) PaO₂ lower than 60 mm Hg 3) PaO₂ higher than 60 mmHg
- 2) PaCO₂ lower than 35 mm Hg 4) PaCO₂ higher than 45 mmHg

4. The acute respiratory failure in decompensatory stage is characterized by:

- 1) PaO₂ lower than 60 mmHg 3) PaO₂ higher than 60 mmHg
- 2) PaCO₂ lower than 35 mm Hg 4) PaCO₂ higher than 45 mmHg

5. Disturbances of lung ventilation develop in most cases due to restrictive type during:

- 1) atelectasis 4) intercostal myositis
- 2) COPD 5) dry pleuritis
- 3) during bronchial asthma 6) during pneumonia

6. Disturbances of lung ventilation develop, as a rule, due to obstructive type during:

- 1) COPD 4) atelectasis
- 2) bronchial asthma 5) pneumothorax
- 3) pneumonia

7. Coefficient Tiffeneau of healthy persons may be equal to:

- 1) 90% 2) 80% 3) 60% 4) 50% 5) 40%

8. Coefficient Tiffeneau of patients with lung atelectasis may be equal:

- 1) 90% 2) 80% 3) 60% 4) 50% 5) 40%

9. Coefficient Tiffeneau of patients with chronic obstructive pulmonary diseases may be equal:

- 1) 90% 2) 80% 3) 60% 4) 50% 5) 40%

10. In what manner the minute alveolar ventilation changes in patient with fast, deep breathing?

- 1) increased 2) decreased 3) not changed

11. In what manner the minute alveolar ventilation changes in patient with fast shallow breathing?

- 1) increased 2) decreased 3) not changed

12. In what manner the minute alveolar ventilation changes in patient with slow shallow breathing?

- 1) increased 2) decreased 3) not changed

13. Coefficient Tiffeneau in patients with bronchial asthma:

- 1) increased 2) decreased 3) not changed

14. Coefficient Tiffeneau in patients with chronic obstructive pulmonary diseases:

- 1) increased 2) decreased 3) not changed

15. Coefficient Tiffeneau in patients with bilateral closed pneumothorax is:

- 1) increased 2) decreased 3) not changed

15. Coefficient Tiffeneau in patients with atelectasis is :

- 1) increased 2) decreased 3) not changed

16. The attack of bronchial asthma can be provoked by:

- 1) exciting 4) inhalation of M- cholinomimetic
- 2) inhalation of cold air 5) inhalation of M-cholinolytic
- 3) inhalation of β -adrenomimetic 6) physical exercises

17. The primary emphysema can be evoked by:

- 1) senile age 3) bronchiectasis
- 2) bronchial asthma 4) deficiency of α_1 -antitrypsin

18. The secondary emphysema can be evoked by:

- 1) bronchial asthma 3) deficiency of α_1 -antitrypsin
- 2) senile age 4) bronchiectasis

19. Point out the possible consequences of early air trapping:

- 1) increased residual volume 5) lymphostasis
- 2) increased alveolar ventilation/min 6) hypoxemia
- 3) decreased total lung capacity
- 4) increased blood shunting

20. The pathogenesis of external respiratory failure can consist of followings:

- 1) disturbance of alveolar ventilation
- 2) disturbance in gas exchanges between blood and tissue
- 3) disturbance in diffusion through alveolar-capillary membrane
- 4) disturbance in gas exchanges between blood and external air
- 5) disturbance in blood circulation in lung

21. What are the gas content and acid-base imbalance in blood which characterize respiratory insufficiency in compensatory stage?

- 1) hypoxemia 4) respiratory alkalosis
- 2) hypocapnia 5) respiratory acidosis
- 3) hypercapnia 6) respiratory and metabolic acidosis

22. What are the gas content and acid-base imbalance in blood which characterize respiratory insufficiency in uncompensatory stage?

- 1) hypoxemia 4) respiratory alkalosis
- 2) hypocapnia 5) respiratory acidosis
- 3) hypercapnia 6) respiratory and metabolic acidosis

23. In what manner the tidal volume changes in patients with obstructive type of lung ventilation disturbance?

- 1) increased 2) decreased 3) not changed

24. In what manner the minute alveolar ventilation changes in patients with obstructive type of lung ventilation disturbances?
1) increased 2) decreased 3) not changed
25. In what manner the vital capacity changes in patients with obstructive type of lung ventilation disturbances?
1) increased 2) decreased 3) not changed
26. In what manner the vital capacity changes in patient with restrictive type of lung ventilation disturbances?
1) increased 2) decreased 3) not changed
27. In what manner the maximal lung ventilation changes in patients with obstructive type of ventilation disturbances?
1) increased 2) decreased 3) not changed
28. In what manner the residual volume changes in patients with restrictive type of lung ventilation disturbances?
1) increased 2) decreased 3) not changed
29. In what manner the total lung capacity changes in patients with restrictive type of lung ventilation disturbances?
1) increased 2) decreased 3) not changed
30. In what manner coefficient Tiffeneau changes in patient with restrictive type of lung ventilation disturbances?
1) increased 2) decreased 3) not changed
31. In what manner the residual volume changes in patients with obstructive type of lung ventilation disturbances?
1) increased not more than 20% of predicted
2) decreased 3) remained in normal
32. In what manner the total lung capacity changes in patients with obstructive type of lung ventilation disturbances?
1) increased not more than 20% of predicted
2) decreased 3) remained in normal
33. In what manner the total lung capacity changes in patients with obstructive type of lung ventilation disturbances?
1) increased not more than 20% of predicted
2) decreased 3) remained in normal
34. In what manner coefficient Tiffeneau changes in patients with obstructive type of lung ventilation disturbances?
1) increased 2) decreased 3) remained in normal
35. Inspiratory reserve volume during chronic obstructive pulmonary diseases can be:
1) increased 2) decreased 3) remained in normal
36. Expiratory reserve volume during chronic obstructive pulmonary diseases can be:
1) increased 2) decreased 3) remained in normal
37. Total lung capacity during emphysema can be:
1) increased 2) decreased 3) remained normal

38. Coefficient Tiffeneau during obstructive pulmonary diseases can be:
1) increased 2) decreased 3) remained normal
39. Inspiratory reserve volume during atelectasis can be:
1) increased 2) decreased 3) remained normal
40. Total lung capacity during atelectasis can be:
1) increased 2) decreased 3) remained normal
41. Coefficient Tiffeneau during atelectasis can be:
1) increased 2) decreased 3) remained normal
42. Inspiratory dyspnea can characterize the followings:
1) chronic obstructive pulmonary diseases
2) stenosis of trachea 4) the attack of bronchial asthma
3) the first stage of asphyxia 5) stenosis of larynx
43. Expiratory dyspnea characterizes the followings:
1) chronic obstructive pulmonary diseases
2) emphysema 4) the first stage of asphyxia
3) stenosis of larynx 5) stenosis of trachea
44. The bases of the secondary emphysema development in patient with bronchial asthma are:
1) increased VC 5) increased RV
2) increased TLC 6) increased ventilation per minute
3) early expiratory closure of air pathways
4) decreased maximal alveolar ventilation

The second level of test control

45. What does it mean: *respiratory failure*? Give the definition.
46. Give the definition to the term: *dy'spnea*.
47. Point out the pathogenetical forms of respiratory failure (4).
48. Point out the pathogenetical forms of lung ventilation disturbances (4).
49. Stimulation of which receptors can lead to development of dyspnea? (5)
50. Which indexes the most likely characterize the obstructive type of lung ventilation disturbances?
51. Which indexes the most likely characterize the restrictive type of lung ventilation disturbances?
52. Explain the mechanism of cyanosis in patient with respiratory failure.