

LUNG PATH MCQS

1. You have intubated a ?COVID-19 patient and an x-ray shows accidental right bronchus intubation. The left lung is opacified. The most likely (additional) pathology is

 - A: compression atelectasis
 - B: contraction atelectasis
 - C: re-expansion pulmonary oedema
 - D: **resorption atelectasis ✓**
2. A patient with alveolar microhaemorrhages & haemosiderin-laden macrophages is likely to have

 - A: acute respiratory distress syndrome (with or without COVID-19)
 - B: allergic bronchopulmonary aspergillosis
 - C: **left ventricular failure ✓**
 - D: primary pulmonary hypertension
3. Panacinar emphysema is most common in

 - A: **alpha-1 antitrypsin deficiency ✓**
 - B: asbestosis
 - C: cigarette smokers
 - D: radiation injury
4. Patients with emphysema are usually without symptoms until this much lung parenchyma has been damaged

 - A: 20%
 - B: **30% ✓**
 - C: 40%
 - D: 50%
5. Chronic bronchitis is characterised by

 - A: **hyperplasia of mucus-secreting glands ✓**
 - B: loss of elastic tissue around respiratory bronchioles
 - C: necrosis of mucous-secreting glands
 - D: obstruction of the pores of Kohn
6. A 4 year old with a strong family history of atopy and asthma develops wheeze after playing with a kitten in a flower garden. You recall that asthma in response to environmental allergens depends on

 - A: **an exaggerated T2 helper cell response ✓**
 - B: cross-linking of preformed IgG on B cells
 - C: epithelial damage by alveolar macrophages
 - D: histamine release by eosinophils
7. Bronchiectasis is most common in patients with

 - A: cryptogenic organising pneumonia
 - B: **defective mucociliary function ✓**
 - C: latent tuberculosis
 - D: loss of surfactant

8. A frequent inhabitant of sputum in bronchiectasis is
- A: candida albicans
 - B: coronavirus
 - C: **pseudomonas aeruginosa ✓**
 - D: staphylococcus epidermidis
9. Rheumatoid arthritis is associated with all of these except
- A: diffuse interstitial pneumonitis
 - B: **paraseptal emphysema ✓**
 - C: pleural effusion
 - D: pulmonary nodules
10. A patient with shortness of breath and ?COVID-19 gives a history of idiopathic pulmonary fibrosis. The pathophysiology of their pre-existing lung disease includes
- A: air-trapping and generation of auto-PEEP
 - B: decreased ratio of FEV1 to FVC
 - C: increased lung compliance
 - D: **normal ratio of FEV1 to FVC ✓**
11. A FIFO miner presents with shortness of breath, ?COVID-19. He hates wearing masks in or out of the workplace and you suspect a pneumoconiosis. The most dangerous particles of dust are
- A: 1-5 nanometres in diameter
 - B: 50-100 nanometres in diameter
 - C: **1-5 micrometres in diameter ✓**
 - D: 50-100 micrometres in diameter
- 12: The lungs of a coal miner with pneumoconiosis are most affected at the
- A: bases of the lower lobes
 - B: perihilar regions
 - C: subpleural areas
 - D: **upper lobes and upper zones of lower lobes ✓**
- 13: Malignant mesothelioma is associated with exposure to
- A: **asbestos ✓**
 - B: beryllium
 - C: silica
 - D: tin oxide
- 14: Hypersensitivity pneumonitis is characterised by interstitial infiltrates teeming with high numbers of all except
- A: **eosinophils ✓**
 - B: lymphocytes
 - C: macrophages
 - D: plasma cells

15. Pulmonary hypertension is defined as a mean pulmonary arterial pressure at rest of
- A: 10 mm HG
 - B: 15 mmHg
 - C: 20 mmHg
 - D: 25mmHg ✓
16. The biggest risk factor for idiopathic pulmonary hypertension is
- A: family history ✓
 - B: obesity
 - C: old age
 - D: smoking
17. A patient with cough, fever and ?COVID-19 is revealed to have lobar pneumonia. Everyone rejoices until you recall that red hepatization is underway, filling his alveoli with
- A: fibrin, foam cells and thrombi
 - B: intra-alveolar fluid and hyaline membranes
 - C: lymphocytes and macrophages
 - D: neutrophils, red cells and fibrin ✓
18. A ?COVID-19 patient is instead positive for influenza A. This virus infects
- A: alveolar macrophages
 - B: B lymphocytes
 - C: pneumocytes ✓
 - D: T lymphocytes
- 19: A snotty, breathless toddler has a rapid swab after visiting a poorly-socially-distanced McDonalds. There is no COVID-19, but there is human metapneumovirus. A frequent complication of this infection is
- A: bronchiolitis ✓
 - B: croup
 - C: meningitis
 - D: pericarditis
20. A patient with lung cancer presents with a range of extra pulmonary symptoms and a negative PET scan. The cancer most associated with paraneoplastic syndromes is
- A: adenocarcinoma
 - B: large cell carcinoma
 - C: small cell carcinoma ✓
 - D: squamous cell carcinoma