#

1. In patients with severe COVID-19 pneumonia, which of the following medications has been shown in prospective randomized studies to improve survival? #

A. Bamlanivimab

B. Dexamethasone \*

C. Hydroxychloroquine

D. Ivermectin.

#

2. A single-center randomized trial published in 2016 comparing conservative vs liberal oxygen treatment in critically ill patients to an ICU reported a lower mortality in patients admitted to an ICU reported a lower mortality in patients treated with conservative approach.

Since that report, what have multicenter trials evaluating conservative oxygen therapy specifically in mechanically ventilated patients shown? #

A. A worse outcome in patients treated with conservative oxygen endpoints who had coincident acute hypoxic-ischemic encephalopathy.

B. Increase in 28-day survival in patients with ARDS treated with conservative oxygen therapy.

C. Increase in ventilator-free days in all mechanically ventilated patients treated with a liberal oxygen approach.

D. No improvement in survival or ventilator-free days in patients with ARDS or other causes of respiratory failure conservative oxygen endpoints \*

#

3. The image shown below is a part of the transthoracic echocardiography of a nonmechanically ventilated, spontaneously breathing patient. What is the best estimation of right atrial pressure in this patient? #

A. 0 to 5 cm

B. 5 to 10 cm

C. 11 to 15 cm

D. 16 to 20 cm\*

e. 16 to 74 cm

f. 16 to 154 cm

#

4. A 50-year-old woman with morbid obesity is admitted for respiratory failure. Despite the use of noninvasive mechanical ventilation, she continues to decline clinically and requires intubation and invasive mechanical ventilation. The airway kit at the bedside includes multiple sizes for direct laryngoscopy.

In patients such as this, video laryngoscopy, when compared with direct laryngoscopy, is associated with which the following outcomes: #

A. Increase the incidence of ventilator-associated pneumonia.

B. Increase the visualization of the glottis. \*

C. Reduced likelihood of cricothyrotomy

D. Reduced mortality

e. Reduced mortafglity

f. Reduced moaadrtality

#

5. A 52-year-old man presents with progressive exertional dyspnea come on and the productive cough, and online kg weight loss over the past 6 months. Physical examination reveals bilateral inspiratory crackles without wheezing. ATG, transthoracic echo cardiography, and the dimer are normal. Transaxial CT chest image is shown below, with upper and middle zone predominance and sparing of the bases.

Based on the history and images which of the following exposure histories would likely explain these findings#

A. exposed to a large anhydrous ammonia leak from a fertilizer tank on a farm.

B. Operated an exotic bird and reptile shop for the past 10 years. \*

C. Was a maintenance technician for a boiler operation.

D. Worked 12 years as a drilling operator forging tunnels for railroad.

e. Resdduced morftality

#

6. A 70-year-old female presents with exertional progressive dyspnea over the past 9 months. She has a 40-pack-year smoking history. Past medical history is significant for hyperlipidemia, and coronary artery disease. Physical examination reveals an oxygen saturation of 95% at rest and 80% with exertion with no wheezes, crackles on lung examination and digital clapping. Cardiovascular examination is normal. Palmary function tests show a total lung capacity of 88% predicted; FVC, 82% predicted; FEV1, 102% predicted; FEV1/FVC, 0.86; and DLCO, 30% predicted. Which of the following is the most likely diagnosis? #

A. Cryptogenic organizing pneumonia

B. combined pulmonary fibrosis emphysema. \*

C. Hypersensitivity pneumonitis

#

7. A 60-year-old female presents with a 15-month history of progressive exertion of dyspnea and a 9-month of dry cough. She used to smoke one pack daily for 20 years. Symptoms worsened after having an influenza infection 6 months ago for which she was treated with a course of antibiotics and Prednisone. History is significant for early gray hair, hypertension and hyperlipidemia. Her father died from family fibrosis. Review of systems was otherwise unremarkable. No environmental exposures were noted either at home or work. Apart from bibasilar crackles on lung examination, physical examination was normal. Work up revealed elevated Ana at 1:320. A comprehensive set of serologic testing was otherwise negative. Primary function tests short a total lung capacity of 70% predicted; FVC, 70% predicted; FEV1, 75% predicted; and DLCO 70% predicted. On a 6-minute walk test, she walked 420 m with room air oxygen saturation of 96% at rest and 94% with exertion. HRCT is shown below.

What's the best initial management of the patient's condition? #

A. Azathioprine 150 mg daily

B. Nintedanib 150 mg twice a day\*

C. Prednisone 40 mg daily

D. Urgent referral for lung transplantation

#

8. You were consulted to evaluate a patient with abnormal chest imaging prior to colectomy. Your patient is a 70-year-old male developed adult-onset of Crohn's disease resistant to multiple medications, including mesalamine, azathioprine, and adalimumab. Patient endorses that he has mild unchanged exertional dyspnea but no cough or chest pain. His past medical history is significant for recent DVT, distant in situ bladder cancer, and hypertension. Medications include prednisone 10 mg daily, recently tapered from 40 mg daily: adalimumab 40 mg every 2 weeks, azathioprine 150 mg daily, and apixaban 5 mg twice daily. Patient is well-appearing, not in distress, afebrile, respiratory rate 16/min, pulse 80/min, BP 120/70 mmHg, saturation 97% on room. The cardiovascular and lung examination was normal. No edema or clubbing on extremity examination. The skin examination did not show rash. Laboratory work-up revealed a WBC of 5.9 with a normal differential count. CT chest as shown below.

Which of the following is likely to be found on navigational bronchoscopy? #

A. Enterococcus faecalis

B. Few encapsulated yeast\*

C. Metastatic adenocarcinoma

D. Staphylococcus Aureus

#

9. A 40-year-old female with history of hypertension, diabetes, and uterine fibroids presents with progressive dyspnea and dry cough over the course of 6 months. She denies chest pain, weight loss, fever, chills, or hemoptysis. She is a non-smoker and denies any environmental or occupational exposure.

On physical examination, she is afebrile, and her heart rate is 90/min, BP is 130/90 mmHg, respiratory rate is 18/min, and oxygen saturation is 92% on room air. Apart from mild expiratory wheezing, the remainder of the examination is unremarkable.

Pulmonary function testing reveals an FEV1 of 1.87 L (64% predicted), FVC of 2.82 L (73% predicted) and FEV1/FVC of 0.66 with no response to bronchodilators; total lung capacity of 63% predicted and a DLCO of 60% predicted.

Chest CT scanning is performed, and representative images are shown below. The patient underwent an extensive nondiagnostic infectious evaluation, including negative sputum for acid-fast bacilli and fungal cultures. HIV testing and extensive serologic evaluation for autoimmune disorders are negative. Surgical lung pathology is performed and shown below.

What is the likely diagnosis? #

A. Pulmonary Langerhans cell histiocytosis

B. Lymphangioleiomyomatosis

C. Lymphoid interstitial pneumonia

D. Pulmonary benign metastasizing leiomyoma\*

#

10. A 45-year-old woman presents for a second opinion for progressive dyspnea and cough with surgical lung biopsy suggestive of constrictive bronchiolitis obliterans. She originally presented 4 months prior with dyspnea on exertion and a productive cough. High-resolution CT scan showed patchy ground glass opacities and interlobular septal thickening. Video-assisted thoracoscopic surgical lung biopsy was performed, with findings thought consistent with constrictive bronchiolitis for which she had been started on prednisone and azathioprine, with continued worsening shortness of breath and cough. She was referred to the interstitial lung disease clinic for consultation.

Her medical history was significant for morbid obesity and OSA treated with CPAP. Physical examination revealed a morbidly obese woman in mild respiratory distress. She was afebrile, with a respiratory rate of 24/min, heart rate 80/min, and saturation of 88% on room air. The lung examination was significant for bibasilar crackles. Cardiac examination was normal. Lung testing revealed a normal CBC count and BNP. Pulmonary function tests showed a total lung capacity of 67% predicted; FVC, 66% predicted; FEV1, 78% predicted; FEV1/FVC, 0.89; and DLCO, 51% predicted. And repeat high-resolution CT scan is shown below. Bronchoscopy with BAL was performed using noninvasive positive pressure mask ventilation and showed opaque and milky white fluid. Cytologic staining of the BAL fluid for periodic acid Schiff was positive.

Which of the following blood tests is most likely to be positive? #

A. Antigranulocyte macrophage colony-stimulating factor antibody\*

B. Anti topoisomerase/SCL–70 antibody

C. IgG antibodies to mold antigens

D. Vascular endothelial growth factor D

#

11. A 50-year-old patient with a history of moderate COPD is admitted to the hospital with community-acquired pneumonia that leads to ARDS requiring mechanical ventilation. No organisms were identified in laboratory testing. After 5 days on the ventilator, the patient developed a new fever. Repeat cultures are sent, along with a new fungal assay by cross covering colleague who quotes 90% sensitivity and 60% specificity for the new assay from a recent multicenter cohort study of 600 immunocompromised ICU patients of whom 200 were determined to have true fungal infection by composite golden standard. Based on this information, and knowing your patient may not be as immunocompromised as those in the referenced manuscript, which of the following statements is correct? #

A. The predictive value of a positive test in the referenced manuscript is 30%, while the predictive value of a negative test is 40%.

B. The positive predictive value in your patient is likely to be less than 60%.\*

C. A positive test result in your patient is likely to be accurate because the specificity is 60%

D. A negative test result in your patient is probably less reliable than was suggested by the referenced manuscript.

#

12. A 30-year-old man with cystic fibrosis (cystic fibrosis transmembrane conductance regulator mutation: F508del, G542X) presents to the clinic for new patient consultation. He is currently feeling well. On review of records, he has a history of prior pulmonary exacerbations, and cultures have previously grown Pseudomonas aeruginosa and methicillin susceptible Staphylococcus aureus. His baseline FEV1 is 66 predicted, and he has pancreatic insufficiency, chronic rhinosinusitis, and a BMI of 20 kg/meter square.

Which of the following modulators medications should now be prescribed as a part of his regimen to improve his lung function, decrease exacerbations and increase weight gain? #

A. Ivacaftor

B. Tezacaftor/ivacaftor

C. Lumacaftor/ivacaftor

D. Elexacaftor/tezacaftor/ivacaftor\*

#

13. A 32-year-old male with history of IV drug abuse is admitted to the ICU with sepsis. In the ED, the temperature is 38.3 C, heart rate 120, blood pressure 80/40. He has 10 X 14 cm area of cellulitis on his left thigh where he has injected heroin in the past. The remainder of his skin examination is unremarkable. His neurological exam is normal. He is given 2 L normal saline, blood cultures are obtained, and vancomycin and piperacillin/tazobactam are initiated. He clinically improves as his left thigh cellulitis regresses. His admission blood cultures grew methicillin susceptible Staphylococcus aureus 48 hours after being drawn. Repeat cultures remain negative, and his transthoracic echo is negative for vegetations. His piperacillin/tazobactam was discontinued. You plan to discontinue his vancomycin. Which of the following antimicrobials should now be initiated? #

A. Linezolid

B. Cefazolin\*

C. Dicloxacillin

D. Daptomycin

#

14. A 67-year-old male is admitted to the general medical inpatient unit with a 3-day history of fever and productive cough. Physical examination is notable for bibasilar inspiratory crackles with egophony, and chest radiograph shows bibasilar airspace disease. Gram stain for sputum culture showed leukocytes with no organisms, and nucleic acid testing of sputum was negative for influenza, SARS COVID 2 and other respiratory viruses.

The patient is without known prior pulmonary disease, and his medical history is notable only for hypertension and a minor stroke 3-years prior to this admission. He states that since his stroke he has had “intermittent trouble with things going down the wrong tube” when he swallows, followed by coughing paroxysm. His last hospitalization was for this stroke, and medical records do not document previous isolation of MRSA or Pseudomonas at any time. He does not believe that he has ever received IV antibiotics.

We will check the following antibiotic regimen is most appropriate for him to receive. #

A. Vancomycin plus piperacillin/tazobactam

B. Ceftriaxone plus azithromycin\*

C. Ceftriaxone plus doxycycline plus metronidazole

D. Clindamycin

#

15. A 40-year-old woman is referred to you for evaluation by her gastroenterologist. She has a 6-year history of worsening ulcerative colitis, and her gastroenterologist would like to start her on infliximab. As a part of her evaluation, they ordered an interferon gamma release assay, which was positive. Her chest radiograph showed a 4 mm calcified nodule in the right upper lobe, and history sputum for acid-fast bacilli was also ordered and was smear negative. The patient denies sweats, fever, chills; has no other significant medical history; and feels well from the pulmonary standpoint. She has no history of immigration from a high-risk country, or known TB exposure, and she works as a librarian. He is a never smoker. She never smokes. Routine labs revealed mild iron deficiency anemia, negative HIV, normal liver function, and a negative pregnancy test. Which of the following do recommend? #

A. Begin isoniazid, rifampin, ethambutol and pyrazinamide for 6-month.

B. No additional treatment is needed.

C. Begin rifampin and pyrazinamide for 2 months.

D. Begin rifampin for 4 months. \*

#

16. One of the healthcare providers on your team was exposed without adequate personal protection to acid-fast bacilli smear-positive patient with multidrug-resistant TB. Antimicrobial susceptibilities revealed resistance to isoniazid and rifampin. After initial evaluation, the healthcare provider was found to have no symptoms, the chest radiograph showed no pulmonary infiltrates, and both the tuberculin skin test and the interferon gamma release assay are negative. What is the best next step in the care of this health care provider? #

A. Observe and repeat testing if symptoms appear.

B. Start levofloxacin. \*

C. Start pyrazinamide/moxifloxacin.

D. Start intensive phase of treatment with at least 5 drugs.

#

17. A 66-year-old man is referred to you for dyspnea on exertion. He is a former smoker of 35 years, 60 pack-years. He notes new onset dyspnea with climbing 2 flights of stairs. He was an auto mechanic, and he does not have any significant past medical history. He is interested in being active with retirement but does not “want to get winded”. His examination is unremarkable, including clear lung sounds. His chest radiograph is normal. Pulmonary function testing is performed with an FEV1 of 55% predicted, FVC 67% predicted, FEV1/FVC of 0.54, and you diagnosed COPD. He states that" I hate medications and vaccinations and only want to do what is necessary" he has not received any vaccinations in 20 years except for tetanus shot 3 years ago.

In addition to yearly influenza vaccine, what vaccine would you recommend at this time? #

A. Pneumococcal conjugate vaccine, PCV 13

B. Pneumococcal conjugate vaccine, PCV 13 followed by pneumococcal polysaccharide vaccine (PPSV 23) 1 year later.

C. Pneumococcal polysaccharide vaccine PPSV23\*

D. No vaccines at this time.

#

18. A 66-year-old man presents with increasing coughing with occasional sputum production, which contained a few blood flecks, led to further evaluation with a chest CT. A 7.5–cm mass was seen in the right upper lobe. The mass extended into the right upper lobe bronchus but did not reach the right main bronchus or lead to atelectasis of the entire lobe. There was no mediastinal adenopathy. PET/CT, endobronchial ultrasound colposcopy with systemic staging of the hila and mediastinum as well as sampling of the mass, and brain MRI confirmed the presence of a squamous cell carcinoma of the lung without regional nodal or distant spread.

Was the clinical stage of lung cancer? #

A. T2aN0M0–stage IB

B. T2bN0M0- stage IIA

C. T3N0M0-Stage IIB

D. T4N0M0-stage IIIA\*

#

19. A 67-year-old woman presents for evaluation of low-dose CT chest (LDCT) screening findings. She was referred for screening because she met eligibility criteria. She has been feeling well, has been able to be active, and notes some dyspnea if she pushes herself. She did not have new coughing, chest pain, appetite problems, or fevers. Her medical history includes COPD (no maintenance therapy, no acute exacerbations), sleep apnea, colon cancer status post resection 15 years ago, and depression. After a shared decision-making visit that included a discussion of the benefits and harms of screening, calculation of her risk of developing lung cancer (12.7% risk of developing lung cancer over the next 6 years), and the use of a decision aid, she chose to move forward with a screening LDCT scan.

Her LDCT screening identified a solid 4 mm nodule in the right upper lobe.

Which of the following accurately describes the interpretation of these findings? #

A. Lung–RADS category 1, return to annual screening.

B. Lung RADS category 2, return to annual screening. \*

C. Lung RADS category 3, follow-up in 6 months

D. Lung RADS category 4, follow-up in 6 months

#

20. A 57-year-old woman with a history of breast cancer presented with dyspnea and chest pain. Her evaluation revealed extensive metastatic disease, including large left pleural effusion. Results of large volume thoracocentesis confirm that the effusion is malignant. Her dyspnea was improved by the procedure, but the effusion recurs quickly. She is not anticipated to die imminently.

Which of the following is true of the use of an indwelling pleural catheter? #

A. It should be reinserted if the lung completely re-expands after thoracocentesis.

B. It results in fewer repeat pleural procedures than talc pleurodesis alone. \*

C. Talc should not be administered through the catheter.

D. It should be removed if cellulitis develops around the insertion site.

#

21. A 60-year-old male presents for evaluation of coughing and dyspnea. He was healthy and very active, exercising regularly without pulmonary symptoms until around 4 months prior to his visit. He developed an aggressive cough, minimally productive sputum, and then progressive dyspnea with his activities. He has also had some new sinus fullness and drainage. He did not have fevers, sweat or appetite problems. He did not have rashes, headaches, or new joint pains. His symptoms persisted despite a course of antibiotics and corticosteroids, ultimately leading to hospital admission.

In the hospital he underwent chest CT imaging as shown below.

Which of the following is true of paraneoplastic presentation being the most likely cause of the imaging finding? #

A. Resection leads to complete resolution of the paraneoplastic syndrome.

B. Those presenting with paraneoplastic syndrome usually have more advanced disease.

C. Myasthenia gravis is the most common paraneoplastic presentation. \*

D. Good syndrome refers to pure cell aplasia associated with this finding.

#

22. A 40-year-old smoker never underwent breast MRI for breast cancer screening due to strong family history of breast cancer. She exercises regularly without limitation from dyspnea. She is not coughing or having chest pain, appetite problems, or fevers. She describes yearly bronchitis or sinusitis in the early fall, with a harsh cough lasting up to 3 weeks. She is otherwise healthy. There is no family history of lung diseases, including lung cancer.

Her breast MRI suggested a mass in the right cardiophrenic recess. A chest CT scan was performed for further evaluation. This confirmed the presence of a mass of 3.3 cm in diameter with an internal density of 15 Hounsfield units.

Which of the following statements about this mass is most true? #

A. It should be resected.

B. It is often associated with abnormalities of lung and foregut development.

C. It often presents in the anterior mediastinum or neck.

D. It can lead to right ventricular outflow tract obstruction. \*

#

23. A 60-year-old current smoker with a an 82-pack-year history is seen for evaluation of a lung nodule incidentally noted on coronary artery calcium screening CT scan. He can be active without cardiopulmonary or systemic symptoms. He rows daily for exercise and works as a plumber. His other medical history is significant for COPD and multiple sclerosis. He has not undergone prior chest imaging. His recent CT scan shows a 10 mm mostly solid lung nodule in the periphery of the right lower lobe.

What would be your next step? #

A. A transthoracic needle biopsy

B. Review of the CT scan in off-axis access plans\*

C. Repeating the study is study is diagnostic chest CT scan.

D. Surveillance of the nodule with a chest CT scan in 3 months

#

24. A 20-year-old woman with a history of asthma since age 15 reports worsening asthma control days before her menses, with increased need for rescue bronchodilator therapy. She is a non-smoker and is maintained on inhaled steroid and leukotriene receptor antagonist. She reports no seasonal variation. Her BMI is 31 kg/m².

What is the next best intervention to control symptoms in this patient? #

A. Add a long-acting beta-2 agonist. \*

B. Advised daily nonsteroidal anti-inflammatory drugs prior to menstruation.

C. Start estrogen replacement therapy.

D. Refer to for salpingo-oophorectomy.

#

25. A 28-year-old male presents to the ED with chest tightness to the ED with chest tightness and shortness of breath. His past medical history is notable for very mild asthma during childhood, and chronic rhinosinusitis, which has been getting progressively worse over the past 4 years. He now has persistent nasal congestion and difficulty breathing through his nose, and he has recently lost the sense of smell. He also reports more frequent headaches lately, with inadequate response to ibuprofen. He is maintained on a combined inhaled steroid/long-acting beta-2 agonist, nasal topical steroid, nasal saline, and nonsedating oral antihistamine. In the past few months, he has had 2 asthma exacerbations requiring systemic corticosteroids.

Which of the following test would confirm his diagnosis? #

A. Serum eosinophil count

B. Sweat chloride test.

C. Oral aspirin challenge\*

D. Nasal nitric oxide test

#

26. For which of the following patients with COPD would be most appropriate to consider initiation of long-term nocturnal noninvasive ventilation? #

A. Discharged from hospital 4 weeks ago with acute exacerbation of COPD and currently clinically stable: PaCO2, 52 mmHg; pH, 7.36. \*

B. In the hospital recovering from acute exacerbation of COPD managed initially with noninvasive ventilation but now ready for discharge PCO2 62 mmHg; pH 7.37; clinically improving.

C. Discharged from hospital with acute exacerbation of COPD 2 days ago: PaCO2, 62 mmHg; pH; pH, 7.31; experiencing worsening shortness of breath.

D. Discharged from hospital with acute exacerbation of COPD 4 weeks ago: Currently PaCO2, 64 mmHg; pH, 7.36; awaiting overnight polysomnography because of suspicion for sleep disordered breathing; clinically stable.

#

27. A 65-year-old retired electrician presents to your office to discuss concerns regarding lung health. His union reported that he was among some of its members who are exposed to construction dust and asbestos fibers with inadequate personal respiratory protection and suggested that he discuss this with his healthcare provider. The patient states that he has" felt fine" but that after the communication from his union he remembered some minor difficulty in keeping up with his friends while elk hunting last autumn. He reports undergoing a subsequent preventive evaluation a few months ago by his family practitioner. This included laboratory testing, an echocardiogram, an exercise stress test, and spirometry, which she describes as" testing out OK”. He smoked cigarettes when he was in his 20s, but he quit smoking more than 40 years ago.

He asked whether he should undergo some form of imaging to assess his respiratory status. Based on this patient's history, which of the following statements would be most accurate regarding use of imaging for screening thoracic malignancy? #

A. Surveillance imaging offers no significant benefit based on his occupational history.

B. Chest CT imaging will be an effective screening modality for malignant pleural mesothelioma.

C. Chest CT imaging in this patient would be more effective for detecting lung cancer than in patients who are currently heavy smokers, more than 2 packs/day.

D. If pleural plaques were present on chest CT imaging in this patient, the patient would likely have a higher mortality rate for lung cancer if detected. \*

#

28. A 67-year-old man with a history of hepatitis C complicated by cirrhosis, esophageal varices, severe aortic encephalopathy, and recurrent right-sided pleural effusion presents with subacute onset dyspnea. He has been compliant with his low-sodium diet and his diuretic regimen, which was recently increased by his hematologist. During the past 5 months, he has required large volume thoracocentesis on weekly basis.

On physical examination, he is afebrile, his heart rate is 90/min, BP is 90/65 mmHg, respiratory rate is 18/minute, and saturation is 90% on room air. Aside from reduced breath sounds over the right hemithorax, the remainder of his examination is unremarkable. His model for end-stage liver disease score is 18. Abdominal ultrasound reveals no ascites. His chest radiograph is shown below. CT chest performed after his last thoracocentesis does not show evidence of lung entrapment.

In addition to repeating thoracocentesis, which of the following would be most appropriate for the management of this patient?

#

A. Chest tube thoracostomy

B. Trans jugular intrahepatic portosystemic shunt

C. Referral for liver transplantation\*

D. Pleurovenous shunt

#

29. A 40-year-old woman with a history of autoimmune hepatitis and cirrhosis complicated by recurrent hepatic hydrothorax presents with pleuritic chest pain and dyspnea. Oxygen saturation on room air is 85%, which improved to 95% on 40% supplemental oxygen. CT chest angiography reveals a large right pleural effusion without evidence of pulmonary embolism or consolidation. Thoracocentesis was performed with improvement in symptoms and oxygenation. Pleural fluid analysis reveals a pH of 7.45; protein, 1 g/dl; lactate dehydrogenase, 100 units/L; and WBC count, 900/ul, with 60% neutrophils, 30% lymphocytes, and 10% monocytes. Gram stain does not reveal organisms. Abdominal ultrasound does not reveal any significant fluid collection amenable to paracentesis.

Based on these findings, which of the following should be done next? #

A. Initiate antibiotics\*

B. Insert chest tube.

C. Related to transjugular intrahepatic portal systemic shunt.

D. Start octreotide.

#

30. A 68-year-old man with 60 pack-year tobacco use and continued active smoking, stage IA lung adenocarcinoma resected 3 years via a video-assisted thoracoscopic surgery right upper lobectomy, and stage I colon carcinoma partial resection of the colon 2 years prior, presents with increased shortness of breath and right pleuritic chest pain for 2 to 3 months. He denies fever, hemoptysis, or chills. His social history is notable for working in a brake lining shop for more than 30 years. On examination, he is thin and in no respiratory distress at rest. There are decreased breath sounds over the right hemithorax. Labs are unremarkable except for carcinoembryonic antigen of 4.5 ng/mL. The chest radiograph reveals a large right-sided pleural effusion as shown below. CT confirmed the large effusion, and no obvious adenopathy or parenchymal masses is noted. Thoracocentesis is performed and revealed a WBC count of 4.2/ul, with 80% lymphocyte; total protein, 4.5 g/dl; lactate dehydrogenase, 309U/L; and glucose, 70mg/dl. Cytology is positive for poorly differentiated malignant cells favoring adenocarcinoma and immunohistochemistry results are positive for TTF-1, CK7, Napsin–A, and negative for CK20, CK5/6, calretinin, p63, and p40.

Which is the most appropriate interpretation of the staging and tumor origin for this patient? #

A. Stage IIIB lung carcinoma

B. Stage IVA lung carcinoma\*

C. Stage IV/ Duke D colon carcinoma

D. Epithelioid malignant mesothelioma

#

31. You are asked to evaluate the following images and make recommendations for treatment. Based on the studies, what is the most likely clinical scenario leading up to the clinical condition shown? #

A. A 22-year-old healthy person experiencing spontaneous dyspnea while walking their dog.

B. A 40-year-old HIV-positive individual notes left-sided chest pain after recent pneumocystis diagnosis.

C. A 52-year-old complains of chest pain and shortness of breath after falling from a ladder. \*

D. A 72-year-old with Global Initiative for Obstructive Lung Disease grade 2, group B COPD has worsening dyspnea.

#

32. A 45-year-old woman with limited cutaneous sclerosis with CREST, as well as progressive dyspnea on exertion is found to have pulmonary arterial hypertension without associated parenchymal lung disease. A mean pulmonary artery pressure of 49 mmHg and World Health Organization functional class III performance as documented, and she is started on treatment with macitentan and tadalafil.

Which of the following contraceptive methods is most appropriate to recommend for the patient? #

A. Barrier and fertility awareness–basic methods

B. Estrogen–progesterone oral contraceptives

C. Hysteroscopic sterilization\*

D. Progestin-only contraceptive

#

33. A 22-year-old woman G1, P0 in her 13th week of pregnancy is seen in the walk-in obstetrical clinic. At that time, she notes right-sided chest pain increased with inspiration over the past week. She also notes a gradual increase in dyspnea since the start of the pregnancy. She reports plane travel 2 weeks prior to that was 6 hours in duration, but she was careful to walk around periodically. She exercises regularly and has started some new weightlifting routines, which coincided with the onset of chest pain, and she thinks might be related. She denies hemoptysis.

On physical examination, her saturation is 97% in the radial artery, heart rate is 80/min, respiratory rate is 14/min, and lungs are clear, and there is mild tenderness to palpation over the right anterior chest wall. Cardiac examination reveals a soft flow murmur, and examination of the lower extremity reveals bilateral trace edema with no tenderness or redness. Fetal heart rate tones are present by ultrasound. Labs are unremarkable. A chest radiograph with appropriate shielding is normal. You are called for recommendations.

What is the next step in her management? #

A. Order a ventilation/perfusion scan.

B. Order a D-dimer. \*

C. Order CT pulmonary angiography

D. Begin low medical weight heparin.

#

34. A 39-year-old man developed a 3-month history of progressive fatigue, cough, small-volume hemoptysis, dyspnea, and 5 kg weight loss. His renal function was normal. Images from CT chest are shown below. Proteinase 3 antineutrophil cytoplasmic antibody (PR3-ANCA) is positive. A diagnosed with granulomatosis with polyangiitis is made. Remission of his symptoms and improvement of his PR-3–ANCA are noted after treatment with glucocorticoids and cyclophosphamide, and 12 months of maintenance therapy with rituximab was then started.

Three months after rituximab maintenance therapy is discontinued, the patient again notes progressive cough and dyspnea, and rising PR-3–ANCA level is measured. His renal function remains normal. BAL is negative for evidence of infection.

Which of the following treatment regimen is most appropriate at this stage? #

A. Cyclosporine

B. Leflunomide

C. Cyclophosphamide

D. Rituximab\*

#

35. Regarding the congenital abnormality shown on the thoracic CT image which of the following is true? #

A.Most often identified in the immediate postpartum period

B.Accompanied by degeneration of nasal and auricular cartilage in >50% of patients

C.Associated with a greater risk of atelectasis in critical illness\*

D.Best diagnosed at bronchoscopy by identifying typical osseous and cartilaginous submucosal nodules

#

36. A 60-year-old woman with a 15-year history of Sjogren’s syndrome is seen for an abnormal CT scan. She has mild nonprogressive dyspnea on exertion but no fevers, weight loss, or cough. She has a history of antiphospholipid syndrome with distant VTE for which she is receiving anticoagulation. Physical examination revealed normal vital signs with mildly elevated BMI. On pulmonary examination, she has clear lung fields.

On cardiac examination, her heart sounds normal. On extremity examination, there is no digital clubbing. Laboratory studies show hemoglobin of 12.5 g/dL (125 g/L) and the following positive serologies: antinuclear antibody, 1:1180; anti-double stranded DNA, 1:80; SS-A, >100; and SS-B, >100. Pulmonary function tests show the following: total lung capacity, 100% predicted; FVC, 90% predicted; FEV1, 88% predicted; and DLCO, 82% predicted. On a 6-minute walk test, she walks 300 m with room air, and SpO2 is 95% at rest and 97% with exercise. High-resolution CT imaging of the chest was reviewed

What is the best course of action? #

A.Perform surgical lung biopsy.

B.Start immunosuppressive therapy.

C.Perform serial CT imaging. \*

D.Perform bronchoscopy with transbronchial biopsy.

#

37. A 32-year-old man with a history of HIV/AIDS previously complicated by numerous opportunistic infections presents with progressive dyspnea on exertion and with chronic, nonproductive cough. He also endorses night sweats, chills, and nonbloody diarrhea, as well as weight loss over a period of 2 months. He has been off antiretroviral therapy for the past 3 years.

On physical examination, his temperature is 38.7°C, heart rate is 116/min, BP is 106/69 mm Hg, respiratory rate is 26/min, and SpO2 is 94% on room air. Notable findings include oral thrush, shotty right anterior cervical and submandibular lymphadenopathy, and faint inspiratory crackles on chest auscultation. No abnormal lesions are noted in his oral mucosa or on skin examination.

Laboratory analysis is notable for a WBC count of 2,600/µL (2.6 × 109/L); hematocrit is 28% (0.28), and platelet count is 188 × 103/µL (188 × 109/L). His CD4 count is 8 cells/mm3, and his viral load is 2,990,000 copies/mL. Renal, hepatic, and thyroid function, as well as electrolytes, are within normal limits.

Chest CT scanning is performed, and representative images are shown (Figure 1). A CT scan of the abdomen and pelvis with IV contrast shows subcentimeter periportal, celiac, mesenteric, and retroperitoneal lymphadenopathy, as well as several low-density lesions in the liver (Figure 2). Bronchoscopy reveals normal airways, with no endoluminal abnormalities. An extensive infectious investigation including BAL cultures, as well Pneumocystis jirovecii pneumonia direct fluorescent antibody, are negative. The patient undergoes sequential thallium 201 and gallium 67 scintigraphy, which shows abnormal delayed thallium uptake and the absence of gallium uptake (Figure 3). Based on these findings, the patient undergoes an ultrasound-guided core biopsy of a subcentimeter submandibular lymph node (Figure 4).

What is the most likely diagnosis? #

A.Non-Hodgkin lymphoma

B.Kaposi sarcoma\*

C.Bacillary angiomatosis

D.Disseminated TB

#

38. Which of the following is true regarding use of the influenza vaccination in patients with COPD? #

A.Vaccination results in a significant reduction in the total number of exacerbations and hospitalization frequency.\*

B.Vaccination results in a significant reduction in the total number of exacerbations and mortality.

C.Vaccination results in a significant reduction in the total number of exacerbations, hospitalization frequency, and mortality.

D.The total number of exacerbations is lower when the intranasal live attenuated virus vaccination is added to an inactivated intramuscular vaccination.

#

39. A 62-year-old active smoker of 35 pack-years is diagnosed with stage 1b non–small cell lung cancer in the right upper lobe, found on low-dose CT screening. Upper lobe emphysematous changes are also noted. He does not have a history of coronary artery disease or cerebrovascular disease. Predicted postoperative assessment for thoracic surgery shows an FEV1 of 38% predicted and a DLCO of 42% predicted. Shuttle walk test distance is (350 m), prompting referral for cardiopulmonary exercise testing where peak VO2 is measured at 21.5 mL/kg/min. Tumor board consensus is lobectomy if the patient can tolerate the surgery.

Which of the following should happen next? #

A.Consider an alternative approach because actual postoperative FEV1 will likely be lower.

B.The patient should proceed straight to right upper lobectomy. \*

C.Refer to pulmonary rehabilitation to reduce postoperative complications.

D.The patient should stop smoking for 4 weeks prior to lung cancer resection.

#

40. A 45-year-old man is referred for a second opinion regarding chronic productive cough and abnormal chest imaging. He reports years of chronic cough productive of copious amounts of sputum, yellow to gray colored, and states that on some days he could collect up to 1-2 cup/day. On two occasions recently, he describes a small amount of blood mixed in with his sputum, which prompted him to seek medical attention. He also reports frequent rhinorrhea and sinus pressure. He denies fevers, sweats, and weight loss but sometimes goes through episodes during which he does have these symptoms and has responded to antibiotics and a "puffer." He reports dyspnea on exertion at 1 block. He denies joint pain or swelling or rashes. There is no family history of similar problems. He has no children. He is a never smoker.

On physical examination, his vital signs are stable, SpO2 on room air is 91%, and lung examination reveals bilateral diffuse crackles and wheezes. He has displaced cardiac sounds and digital clubbing. The labs are notable for mild anemia. Pulmonary function tests show moderate obstruction without bronchodilator response and a reduced diffusing capacity. His imaging is shown in Figure 1, Figure 2, and Figure 3. What is the most likely unifying etiology for this clinical picture? #

A.Primary ciliary dyskinesia\*

B.Cystic fibrosis

C.Immunoglobulin deficiency

D.Nontuberculous mycobacterial infection

#

41. A 58-year-old man is referred to you because she underwent a home sleep apnea test and was diagnosed with moderate OSA (apnea-hypopnea index, 22). Complaints that led to the home sleep apnea test were loud snoring and witnessed apneas. She was also recently diagnosed with hypertension, which is currently untreated. Her BMI is 38 kg/m2, and her BP is 158/96 mm Hg. She reports sleeping habitually 8 h per night and denies excessive daytime sleepiness, but she does complain of mild daytime fatigue. Which of the following recommendations will be the most likely to improve her long-term cardiovascular outcomes? #

A.Start CPAP therapy to normalize BP.

B.Extend sleep to 8 h per night.

C.Start oral antihypertensive therapy. \*

D.Treat OSA with CPAP to facilitate weight loss.

#

42. A 20-year-old man is admitted to the ICU with rapidly evolving hypoxemic respiratory failure. He experienced coughing and some shortness of breath beginning a week earlier, which became worse to the point of her being short of breath at rest. His cough was unproductive, and he did not note fevers. He had not traveled outside her community and had no sick contacts. He has smoked tobacco cigarettes since age 14 and in the prior month had used cannabis daily, usually vaped. He is a university student.

A portable chest radiograph (Figure 1) and representative chest CT scan slice (Figure 2) obtained at the time of admission are shown. Antibiotics for severe community-acquired pneumonia were begun. His initial evaluation included a negative respiratory viral panel, negative urinary antigen testing for Legionella and pneumococcus, negative blood cultures, and negative HIV screen. His sputum grew normal flora. A fungal antigen screen was unrevealing. An ECG and echocardiogram were normal save for sinus tachycardia, and a brain natriuretic peptide level was normal. A rheumatologic battery including erythrocyte sedimentation rate, C-reactive protein, and antinuclear antibody was unremarkable. Urine toxicology was notable for tetrahydrocannabinol only.

Over the next 24 h, the patient became more hypoxemic despite the use of oxygen delivered by high-flow nasal cannula, and he required intubation. With the ventilator set in an assist-control mode and the patient breathing synchronously, the tidal volume was 6 mL/kg predicted body weight; respiratory rate, 30/min; FIO2, 0.6; and positive end-expiratory pressure, 10 cm H2O. An arterial blood gas revealed a pH of 7.36, PCO2 of 37, PO2 of 60, and SaO2 of 90%.

Given the likely cause of this patient's ARDS, which of the following would be the most consistent finding? #

A.Greater than 40% circulating eosinophils

B.Presence of tetrahydrocannabinol and vitamin E acetate in BAL fluid\*

C.Significant hilar adenopathy on chest imaging

D.Progressively bloody fluid obtained during sequential lung lavage

#

43. A 32-year-old patient with moderately controlled sickle cell disease (type HbSS) complains of progressive dyspnea and ongoing episodes of acute chest syndromes. He reports numerous hospitalizations for acute pain crises as a child and adolescent, sometimes with hemoptysis, but these have been less common in adulthood. However, he reports progressive problems with exertional dyspnea over the past 3 to 4 years and now has trouble climbing one flight of stairs.

Currently, he denies cough, chest pain, or other symptoms of an acute sickle cell crisis. His medications include folic acid supplements, rivaroxaban, and hydroxyurea. He is a lifelong nonsmoker. He had an unprovoked DVT last year and has been on anticoagulation indefinitely. The physical exam is remarkable for a thin patient who appears slightly frail. Vital signs are normal, and lung exam reveals only mild crackles in the bases that clear with coughing. There are no abnormal heart sounds or lymphadenopathy. The abdomen is soft and scaphoid, with active bowel sounds. There is mild lower extremity edema, and extremity skin is warm and dry. Current blood tests reveal hemoglobin of 9.2 g/dL; hematocrit, 25.1% (0.25); WBC count, 13,100/μL (13.10 × 109/L); platelets, 725,000/μL (725 × 109/L), with some sickle cells present; and normal electrolytes and renal function. A recent echocardiogram demonstrated an elevated tricuspid regurgitant jet velocity of 3.2 m/s, and he underwent a right heart catheterization that yielded data listed in Figure 1. What would be the next best step in management for this patient? #

A.Increase the frequency of screening echocardiography. \*

B.Discontinue anticoagulation at this time.

C.Pursue other causes of pulmonary hypertension, such as portopulmonary hypertension, connective tissue disorders, and hyperthyroidism.

D.Begin a trial of a prostacyclin agonist or endothelin receptor antagonist.

#

44. A 56-year-old man with a history of diabetes and chronic liver disease due to nonalcoholic steatohepatitis presents with 3 to 4 months of increasing dyspnea on exertion, which now occurs at 1/4 block. It is relieved with rest and particularly when lying flat. He has a history of a GI bleed in the past, with small grade 1 varices noted on esophagogastroduodenoscopy. He first developed ascites last month and has required one paracentesis to date, consistent with portal hypertension. He has no history of alcohol use. On examination, he has mild jaundice, lungs are clear, and he has mild to moderate ascites. There are finger clubbing and spider nevi on the trunk. Radial artery saturations are 88% at rest upright and 92% supine. The chest radiograph reveals small lung volumes but is otherwise clear.

Labs reveal anemia, thrombocytopenia, and a bilirubin of 3.5 mg/dL; alanine aminotransferase, 89 U/L; aspartate aminotransferase, 47 U/L; albumin, 2.9 g/dL (29 g/L); and international normalized ratio, 1.8. Pulmonary function tests reveal mild restriction and a moderate decrease in diffusing capacity (total lung capacity, 72%; DLCO, 52%). Arterial blood gas on the radial artery is pH, 7.45; PCO2, 32 mm Hg; and PO2, 52 mm Hg. Which of the following is characteristic of this likely disease process? #

A.A transthoracic saline contrast-enhanced echocardiogram will show bubbles on the left side of the heart within one to two beats.

B.The hypoxemia can be fully explained by shunt.

C.Liver transplantation is the treatment of choice. \*

D.A transthoracic echocardiogram will show elevated pulmonary artery systolic pressures.

#

45. An 81-year-old woman with a medical history of atrial fibrillation, coronary artery disease, hypertension, and heart failure with preserved ejection fraction presents to the ED with increasing shortness of breath. She has a physical exam significant for bilateral 1+ pitting edema in her lower extremities and bilateral crackles in her lungs. On review of systems, she also complains of some weight loss and low-grade fevers over the past 3 to 4 weeks. Her vital signs on presentation are a BP of 144/55 mm Hg, heart rate of 54/min in sinus rhythm, and SpO2 of 89% on room air. Her medication list includes carvedilol, furosemide, acetylsalicylic acid, clopidogrel, amiodarone, apixaban, and amlodipine. Her admission chest radiograph (Figure 1) was read as pulmonary edema, she was admitted to the hospital and placed on 3 L nasal cannula, and aggressive diuresis was initiated. Over the next 48-72 h, her lower extremity edema improved, but her shortness of breath with exertion did not. A CT scan of her chest was obtained to evaluate her hypoxemia and shortness of breath. A representative image is included in Figure 2.

Based on the information given, what should the next most appropriate treatment be? #

A.An increased dose of diuretics

B.Prednisone 50 mg daily\*

C.Full-dose anticoagulation

D.Antibiotics to cover community-acquired pneumonia

#

46. A 61-year-old male patient diagnosed with ventilator-associated pneumonia due to Acinetobacter baumannii complex was started empirically on meropenem. Antimicrobial susceptibilities showed meropenem resistance, and the antibiotic was switched to colistin IV to which the organism was reported susceptible. However, the patient developed worsening renal function, requiring colistin to be stopped. What would be the best antibiotic selection at this point? #

A.Ceftazidime/avibactam

B.Ceftolozane/tazobactam

C.Ceftobiprole

D.Cefiderocol\*

#

47. A 32-year-old man, nonsmoker, HIV positive, with CD4 of 44 cells/mm3 and viral load <40 copies/mL, presents with oral bleeding from a growing palatal mass that has led to difficulty swallowing and talking. He has had a cough with mixed saliva and blood, shortness of breath, and anterior chest pain for the past month, and he notes a 13 Kg weight loss over the past 4 months. His exam is notable for the hard palate mass, a black nonpruritic lesion on the left side of his face, reduced breath sounds on the left, and a left inguinal lymph node. A chest CT scan is notable for mediastinal lymphadenopathy and bilateral effusions, left greater than right. Ultrasound of the left effusion shows a hematocrit sign (Figure 1). Thoracentesis is performed, and pleural fluid reveals the following:

RBC count, 640,000/µL (0.64 × 1012/L)

WBC count, 800/µL (0.80 × 109/L), mononuclear cell predominant

Protein, 0.48 g/dL (4.8 g/L); serum, 0.63 g/dL (6.3 g/L)

Lactate dehydrogenase, 124 U/L serum, 253 U/L (

pH, 7.51

Cytology, unrevealing

Which one of the following is the most likely underlying diagnosis? #

A.Primary effusion lymphoma

B.Kaposi sarcoma\*

C.Multicentric Castleman disease

D.Mucosal melanoma

#

48. A 71-year-old man with Global Initiative for Chronic Obstructive Lung Disease Group B COPD is referred for chronic sputum production, low-grade fever, rare night sweats, and an 6kg weight loss over 3 months. He describes scant hemoptysis on a few occasions. He is a former tobacco user of 25 pack-years and stopped smoking 4 years ago. He is on an adequate bronchodilator regimen. On examination, he is thin (BMI is 17.1 kg/m2) and afebrile, with scattered rhonchi on lung exam bilaterally. His imaging is shown in Figure 1. Fungal serologies and sputum for bacteria and acid-fast bacillus ×3 is obtained, and three sputum samples are acid-fast bacillus smear positive.

There is no growth of bacterial organisms. A few days later, the DNA probe is negative for Mycobacterium tuberculosis and positive for Mycobacterium avium complex on all three samples. Labs are otherwise unremarkable, and an interferon-γ release assay and HIV are negative. While awaiting sensitivities, what is the best plan? #

A.Begin azithromycin, ethambutol, and rifampin three times per week. \*

B.Begin azithromycin, ethambutol, and rifampin daily.

C.Begin azithromycin, ethambutol, rifampin, and amikacin daily.

D.Defer treatment at this time pending additional evaluation.

#$

49. 45 years old nonsmoker diabetic patient, with BMI of 40, complains on daytime sleepiness and load snoring, home sleep apnea testing demonstrated Apnea Hypopnea Index (AHI) of 25/hour and Nadir saturation of 56%.

What is true regarding this condition? #

A.  AHI may correlate better with cardiovascular outcomes than RDI (respiratory disturbance index) in this condition. \*

B. The patient have Mild sleep apnea, No need for CPAP machine . weight reduction is enough.

C. Polysomnography is no more the gold standard for diagnosing Obstructive sleep apnea.

D. Modafinil may resolve the daytime sleepiness by reducing the Apnea threshold

#$

50. Among the below listed patients with Obstructive sleep apnea (OSA) – treatment with BPAP is superior to CPAP treatment: #

A. Heart failure with preserved Systolic Ejection fraction (HFpEF).

B. Recent COPD exacerbation.

C. ABGs with PCO2 of 40%.

D. Poorly controlled Obesity hypoventilation Syndrome (OHS) on CPAP. \*

#

51. According to the American College of Physicians (ACP) recommendations for diagnosing of obstructive sleep apnea in adults, of the listed, who should be referred to Polysomnography testing? #

A. Unexplained daytime sleepiness \*

B. BMI of 30

C. Uncontrolled Diabetes Mellitus

D. All COPD patients

#

52. What is true of the following? #

A. Multiple sleep latency test (MSLT) and the maintenance of wakefulness test (MWT) is better than Polysomnography in diagnosing Central sleep apnea.

B. Sleep latency is the duration from lights out to the onset of REM sleep .

C. The MSLT should not be used alone to evaluate the risk for driving, work, or home-related accidents because its validity for this purpose has not been proven. \*

D. An epoch is a standard 60 minute interval of a polysomnogram (PSG) to which a sleep stage is assigned

#

53. A 39 years old male patient with 20 packs year history that was diagnosed as Asthma at the age of 14, He suffers from cough and sputum production in the past several years with no seasonal changes, what is true in regarding this condition? #

A. ADAM33 is among the most replicated genes for asthma susceptibility and associated with lung function decline. \*

B. ADAM33 is a susceptibility locus for COPD and pulmonary function abnormalities in Non cigarette smokers.

C. There is no genetic susceptibility in COPD

D. ADAM33 polymorphisms have No association with lung function decline and baseline airflow obstruction in general population cohorts.

#$

54. In The Long-Term Oxygen Treatment Trial Research Group, it was shown that Oxygen therapy in COPD patients with resting or exercise-induced moderate desaturation #

A. Have longer time to death or first hospitalization

B. No change in 6 minute walking distance (6mwd) with Long-term supplemental oxygen \*

C. Reduces the rates of all hospitalizations.

D. Quality of life Measurements is better with Long-term treatment with supplemental oxygen.

#

55. Single-breath diffusing capacity (SB-DLCO) in PFT: #

A. If normal in the setting of an obstructive pattern is consistent with emphysema.

B. Decreased single-breath DLCO associated with airflow obstruction is often associated with asthma.

C. SB- DLCO may be abnormal in patients with emphysema when there is no evidence of airflow obstruction\*

D. The increase of SB-DLCO is correlated not only with the presence of emphysema but also with the amount of emphysema.

#

56. A 57 years old current smoker patient with severe COPD, Chronic ischemic heart disease, had 2 hospitalizations for acute exacerbation of COPD in the past 6 months; He is kept on combination of LABA+LAMA + ICS, what is the appropriate next step: #

A. Start AZITHROMYCIN, dose of 250 mg for 14 days.

B. Start Low dose Systemic steroids.

C. Start Roflumilast. \*

D. No place for pulmonary rehabilitation in his case since he is a smoker.

#

57. What of the listed below, have the least association with the risk factor for childhood reduced pulmonary functions? #

A. Maternal smoking

B. Paternal smoking \*

C. Paternal asthma

D. Maternal asthma

#

58. What is not true regarding Azithromycin Treatment? #

A. In patients prone to exacerbations it may reduce exacerbation rates compared to usual care.

B. Increased incidence of bacterial resistance

C. May cause impaired hearing tests

D. Less effect in non-smokers\*

#59. 60 years old patient with severe asthma and nasal polyps suffered from acute asthmatic Attack after Ibuprofen administration for Low back pain month ago, recently diagnosed with TIA (transient ischemic attack) for which ASPRIN was prescribed, What is proper in this condition? #

A. Avoid aspirin

B. Desensitization to Aspirin followed by daily aspirin daily \*

C. Low dose Aspirin for 6 months.

D. High dose aspirin with oral corticosteroids top prevent Asiprin exacerbated respiratory disease

#$

60. Asthma in 70 years old patient, what is true #

A. No such a thing, Asthma usually diagnosed at younger ages

B. Lower risk for pneumococcal disease than young asthmatics

C. Loss of the lung elastic recoil and airway remodeling is less common in in this age

D. Impaired vision and low respiratory flow should be considered upon deciding \*

#61. All of the listed complications of bronchoscopy are true except #

A. Bronchoscopy is contraindicated in the 6 months after acute Myocardial infarction

B. The rates of Complications in severe COPD patient are around 15% \*

C. In immunocompromised patient the complications rate is higher than immunocompotent

D. Pneumothorax rate in Bronchoscopies with transbronchial Biopsy (TBB) guided by Fluoroscopy is less than 1%

#62. Endobronchial Ultrasound (EBUS ) procedure in 59 years old Smoker with Adenocarcinoma of the Right upper lobe : #

A. Inpatient procedure using general anesthesia.

B. Sampling of the high mediastinal, paratracheal, and subcarinal lymph nodes is important for staging , mediastinoscopy is preferred .

C. Can image and sample para-aortic and lower paraesophageal lymph nodes

D. Real-time imaging permits the sampling of lymph nodes that are smaller than 10 mm in short axis and/or near major blood vessels. \*

#

63. 64 years old patient with 40 p/y smoking history planned for prostatectomy was referred to your preoperative evaluation for incidental x-ray finding of 2 cm Cavitary lesion of RUL , He complains on mild cough without sputum or fever, No weight loss nor night sweat . Bronchoscopy was done, No endobronchial lesion was seen, Acid fast stain was positive for Tuberculosis, Cytology was Negative, Biopsies were not taken, Antituberculous treatment was started with 4 medications, 4 weeks later cultures were positive for Non –Tuberculous Mycobacterium (NTM ) #

A. Switch treatment from TB medication to NTM medications

B. Plan CT guided biopsy to exclude malignant Cavitary lesion, Send tissue culture for proper NTM identification \*

C. Since that the clinic is minimal, and no sputum production, No treatment is needed, 6 months CT follow up is warranted

D. Refer to Lobectomy if the lesion is FDG –Avid on PET –CT scan.

#

64. What is not true regarding Mycobacterial Kansasii infection? #

A. M. kansasii pulmonary disease can be clinically indistinguishable from tuberculosis

B. Person-to-person transmission has not been documented, and infection is thought to arise from environmental sources.

C. Treatment duration is between 6-9 months. \*

D. Treatment criteria are the same as in Mycobacterium Avium complex ( MAC )

#$

65. Of the listed, which substance is not used in Bronchial Provocation tests #

A. Histamine

B. Methacholine

C. Dry powder Mannitol

D. Furosemide \*

#

66. An 80-year-old man has a 50-year pack-a-day smoking history and a 12-year history of COPD. He presents with two days of worsening dyspnea, yellow-green Sputum and cough. He has not been able to sleep for two nights and is unable to lie Flat. Arterial blood gases are: pH 7.32, PO2 of 53 mm Hg, and PCO2 of 58 mm Hg.

You admit him to the hospital. Chest radiograph does not reveal an infiltrate. Which of the following would you not prescribe? #

A. noninvasive mechanical ventilation

B. Nebulized albuterol

C. High-dose inhaled corticosteroids\*

D. An oral macrolide antibiotic

#

67. 28-year-old man has smoked 30 cigarettes per day for 12 years. He has a chronic “smoker’s cough,” producing two teaspoons of gray phlegm each morning. He has done this for the past four years. He is concerned that his smoking habit is affecting his health, and he consults you for an examination and advice regarding his cough. Which of the following would you do? #

A. Perform a history and physical examination, reassure him that he is healthy, and counsel him to quit smoking

B. Perform a pulmonary examination, obtain spirometry and a chest radiograph, inform him that he has Obstructive pulmonary disease , prescribe a nicotine inhaler to help him quit smoking, and schedule a return appointment\*

C. Perform a pulmonary examination, obtain a chest radiograph, complete blood count, and urinalysis; reassure him; counsel him to cut back on his smoking and give him an influenza vaccination

D. Perform a history and a physical examination; obtain spirometry, ECG, chest radiograph, complete blood count, biochemical profile, urinalysis, and schedule a follow-up appointment to review the results

#$

68. Of the listed who is less likely to bleed: #

A. Patient with BUN of 50

B. Patient on Plavix that was stopped 4 days ago

C. TIA patient with ongoing treatment with Aspirin \*

D. Increased Pulmonary artery pressure

#

69. Diagnostic yield of bronchoscopy is the best in which condition of the following#

A. Pulmonary Alveolar Proteinosis\*

B. Tuberculosis

C. Sarcoidosis

D. Langerhans Cell Histocytosis

#

70. What is true regarding bronchoalveolar lavage (BAL) #

A. Poor technique for evaluating opportunistic infections in immunocompromised hosts

B. BAL fluid recovery in healthy nonsmokers is between 90 to 95% of the instilled volume

C. BAL fluid recovery may be as low as 50 % in healthy smokers.

D. There are no absolute contraindications to the performance of BAL . \*

#$71. Of the listed condition what is the least that may cause pleural effusion in HIV patients? #

A. Tuberculosis

B. Pneumocystis pneumonia(PCP) \*

C. Kaposi sarcoma

D. Pulmonary cryptococcal disease

#

72. Thoracic drain (tube thoracostomy) is needed in all of listed conditions except: #

A. Hemothorax

B. Spontaneous Pneumothorax secondary to COPD

C. Hepatic hydrothorax related pleural effusion\*

D. Parapneumonic fluid with Ph of 7.1

#$73. 70 years old nonsmoker is known to have pleural plaques secondary to asbestos exposure presented with new onset shortness of breath if 4 weeks’ duration, left sided pleural effusion was seen, upon taping- bloody exudate what is not true in his condition ? #

A. The fluid may be benign in nature

B. The fluid may be secondary to adenocarcinoma of the lung

C. In most conditions the diagnosis is obvious upon fluid analysis \*

D. There is a correlation between the duration of asbestosis exposure and the risk of malignancy

#74. The most common cause for Lung transplantation is: #

A. Pulmonary hypertension

B. Emphysema

C. Cystic fibrosis

D. Interstitial lung disease \*

#75. What is not true in lung transplantation: #

A. Recipients with COPD have the best one-year survival

B. ten-year survival in idiopathic pulmonary arterial hypertension is better than in COPD

C. the median survival for all adult recipients is 9.5 years\*

D. bilateral lung recipients appear to have a better median survival than single lung recipients

#

76. What is the recommended treatment in 42 –years –old female patient that is suffering from dyspnea (NYHA III), Right heart catheterization reviled revealed mPAP of 52 mmHg and PAWP of 12 along with CO = 3.2, upon vasoreactivity testing using NO (Nitric oxide) the mPAP measured 32 mmHg with all other parameters stability: #

A. IV Epoprostenol

B. Oral Tadalafil and oral Ambrisentan

C. Oral Nifedipine and Warfarin \*

D. Oral Seldinafil and Low molecular weight Heparin SC.

#77. 45 years-old patient underwent endarterectomy for chronic thromboembolic pulmonary hypertension (CTEPH), upon further follow up and evaluation, still have signs of Pulmonary hypertension with WHO functional classification III, what is the most appropriate step #

A. Repeat the Endarterectomy

B. Start Riociguat\*

C. Balloon pulmonary angioplasty

D. Oral Tadalafil and oral Ambrisentan

#78. A patient with Duchene muscular dystrophy is suffering from daytime weakness and fatigue, among the listed what gives at is the best indication for nocturnal Noninvasive mechanical ventilation #

A. Vital capacity

B. Total lung capacity

C. Nocturnal Oximetry

D. Maximal inspiratory pressure \*

#79. 30 years old smoker was involved in motor vehicle accident (MVA) brought to your Emergency department, there were no signs of Pneumothorax, But Subcutaneous emphysema was noticed, no signs of RIB fractures but complained on neck pain, Chest X-ray failed to show any tracheal abnormality, what is the proper next step? #

A. Close follow up if deteriorates consider Gastroscopy and Bronchoscopy \*

B. Intubation and mechanical ventilation

C. Chest tube insertion, Hyperbaric Oxygen therapy

D. Non Invasive mechanical ventilation

#80. For acute Asthmatic attack and pending respiratory failure 25 years old patient was intubated and kept on mechanical ventilation with the following parameters: Respiratory rate 16 and Tidal volume 500 cc, PCO2 – 50 mm, Short time after this ventilator setting a drop of his Systolic blood pressure form 150 mmHg to 70 mmHg, what is the appropriate next step ? #

A. Reduce the respiratory rate

B. Start Dopamine

C. Flomazenil to treat Midazolam overdose \*

D. No need for any intervention

#81. Of the listed which condition has the better outcome in noninvasive mechanical ventilation #

A. Weaning from ventilator in COPD patient \*

B. Severe Idiopathic pulmonary fibrosis

C. Severe Pulmonary Hypertension

D. Severe ARDS

#82. Patient with Unprovoked DVT, and a history of recurrent GI bleeding, According to the last ACCP guidelines Anticoagulant treatment should be continued for: #

A. 6 months

B. Undetermined time

C. 3 months\*

D. No enough data regarding this condition

#$83. In oncologic patient with hypercoagulable state and recent DVT, what is the preferred anticoagulation agent #

A. Low molecular weight Heparin \*

B. Warfarin

C. Rivaroxaban

D. Dabigatran

#84. 28 years-old patient in her 30 weeks’ pregnancy presented with sudden onset shortness of breath, Clear chest X-ray, your colleague in the ER preformed Lung Scan that showed intermediate probability of Pulmonary emboli, swelling and purple discoloration of the right leg, what is the appropriate next step? #

A. D DIMER

B. Duplex US of her extremities \*

C. CT angiography

D. Venography of the right calf

#$

85. Of the following patients, who would you refer to lung transplantation? #

A. COPD patient with PCO2 of 40 and FEV1 of 32%

B. Cystic fibrosis with Two exacerbation for the past 12 months, FEV1 Is 40%

C. IPF with desaturation of 85% on room air in 6-minute walking test (6mwt) \*

D. Pulmonary arterial hypertension despite 2 medications.

#

86. Of the listed conditions, what is considered contraindication for lung transplantation? #

A. Severe COPD patient, quitted smoking 6 months ago

B. Severe Bronchiectasis in 54 years’ patient due to Tuberculosis 20 years ago

C. Body mass index (BMI) of 36 \*

D. Renal Cell Carcinoma treated with Nephrectomy 36 months ago

#

87. 36 –year –old patient with mediastenal and hilar lymphadenopathy with shortness of breath, Cough, Arthralgia and generalized weakness, Bronchoscopy was done, non-necrotizing (non-caseating) granulomas were seen: What is the appropriate treatment? #

A. Methotrexate 15 mg once a week

B. High dose Prednisone \*

C. Azathioprine 50 twice a day

D. Infliximab

#

88. All of the listed is (ENDOBRONCHIAL ULTRASOUND) EBUS complications except #

A. Needle breakage

B. Air Emboli \*

C. Cardiac Tamponde

D. Pneumothorax

#

89. 35 years old nonsmoker with mediastenal lymphadenopathy that was noticed during evaluation for Chest Pain, She denies cough or shortness of breath: #

A. At this age it is it is almost certain Sarcoidosis, No need for biopsy.

B. Complications are rare overall in EBUS procedure and may include mediastenal abscess \*

C. Documented infections after cyst aspiration are not of a concern.

D. Damage to EBUS scope is rare of all complications in EBUS procedure.

#90. A 35-year-old patient suspected with stage 1 Sarcoidosis needs an EBUS for granuloma detection. Her complaints are mostly a dry cough. You perform an EBUS with midazolam 5 mg IV conscious sedation and local lidocaine, but the procedure is complicated because of severe cough.

Which of the following medications is not indicated? #

A. Acetylcysteine\*

B. Lidocain

C. Propofol

D. Fentanyl

#91. 34 –year sold female patient was admitted with a history of sudden onset sharp right sided chest pain 3 year ago, With Chest tube insertion for suggested Pneumothorax and a history of 6 months exertional dyspnea with fatigue and cough, CT shows diffuse round, bilateral, thin-walled cysts of varying sizes

What is the next step? #

A. Serum VEGF-D \*

B. VATS biopsy

C. TBB BIOPSY

D. Start treatment

#92. DLCO is decreased except in: #

A. Primary pulmonary hypertension

B. Pulmonary hemorrhage \*

C. Pulmonary fibrosis

D. Emphysema

#93. the most important factor in tissue hypoxia: #

A. Pa O2

B. O2 saturation

C. Cardiac output

D. HB \*

#94. Bilateral wheezing occurs in which of the following: #

A. Pulmonary embolism

B. Foreign body inhalation

C. Sarcoidosis

D. All of the above \*

#95. In hereditary c 1 esterase inhibitor deficiency all the following: #

A. Pruritis \*

B. Tissue swelling

C. Stridor

#96. In alfa antitrypsin deficiency all of the following can occur except: #

A. Panniculitis

B. Liver dysfunction

C. Upper lobe emphysema \*

#97. Chest tube is indicated in para pneumonic effusion except in: #

A. Positive gram stain

B. Ph.7.3\*

C. Empyema

D. Loculated effusion

#98. in TB. Pleural effusion all of following are correct except: #

A. Increase adenosine deaminase

B. Increase epithelial cells \*

C. Increase lymphomytes

D. Exudate

#99. In pleural effusion all of the following statements are correct except: #

A. Cholesterol in exudative pleural effusion in > 55 mg %

B. Exudate exclude C.H.F as a cause \*

C. Pulmonary embolism is always exudate

#100. Which of the following is contraindication to noninvasive ventilation: #

A. Increase PaCO2

B. Sever hypoxemia

C. Coma\*

#101. All of the following can be an indication for lung transplant: #

A. FEV, 40% of predicted \*

B. Resting hypoxemia

C. Resting hypercapnia

#102. In anterior mediastinal tumors all of the following can occur except: #

A. Increase prolactin \*

B. Increase alfa fetoprotein

C. Pure RBC aplasia

D. Increase BHCG

#103. In eosinophilic asthma all the following statements are correct except: #

A. No history of atopy

B. Positive response to bronchodilators \*

C. Good response to mepolizumab

#104. Porto pulmonary hypoxemia is characterized by all of the following#

A. Caused because of decrease diffusion

B. Platypnea

C. i.v. saline causing bubbles in left heart before 5 beats\*