Robbins بعض أسئلة

12 A 33-year-old man has had increasing dyspnea for the past 8 years. On examination, there are decreased breath sounds over all lung fields. A chest radiograph shows flattened diaphragms and increased lucency in all lung fields. Pulmonary function tests show decreased FEV_1 and increased FVC. A sibling is similarly affected. What is the most likely mechanism for his pulmonary disease?

كثير مهم وحلو

- (A) Atopy with IgE binding to mast cells
- (B) *CFTR* gene mutation
- (C) Increased neutrophil proteases
- (D) Prior infection with tuberculosis
- (E) Reduced antielastase activity

Answer: E

- عمره 33 إذاً مو Asthma ولا CF
- $\frac{\downarrow FEV_1}{\uparrow FVC}$ يعني <80% Obstructive
- A sibling is similar معناها Genetic

Conclusion: Panacinar emphysema

1 A 63-year-old man has had progressively worsening dyspnea over the past 10 years. He has noticed a 5-kg weight loss in the past 2 years. He has a chronic cough with minimal sputum production and no chest pain. On physical examination, he is afebrile and normotensive. A chest radiograph shows extensive interstitial disease. Pulmonary function tests show low FVC and normal FEV_1/FVC ratio. Increased exposure to which of the following pollutants is most likely to produce these findings?

- (A) Silica
- (B) Tobacco smoke
- (C) Ozone
- (D) Wood dust
- (E) Carbon monoxide

Answer: A

9 A 34-year-old man suddenly develops severe dyspnea with wheezing and is taken to the emergency department. On physical examination, his vital signs are temperature, 37°C; pulse, 95/min; respirations, 15/min; and blood pressure, 130/80 mm Hg. A chest radiograph shows increased lucency in all lung fields. A sputum cytologic specimen shows Curschmann spirals, Charcot-Leyden crystals, and acute inflammatory cells in a background of abundant mucus. Many of the inflammatory cells are eosinophils. What is the most likely diagnosis?

Robbins & Cotran Review of Pathology **Pg. 302**

- □ (A) Bronchiectasis
- □ (B) Aspiration
- □ (C) Bronchial asthma
- □ (D) Centrilobular emphysema
- □ (E) Chronic bronchitis
- □ (F) Obstructive sleep apnea

Answer & C

3 A 45-year-old man has smoked two packs of cigarettes per day for 20 years. For the past 4 years, he has had a chronic cough with copious mucoid expectoration. During the past year, he has had several episodes of respiratory tract infections that were diagnosed as "viral flu," and he developed difficulty breathing, tightness of the chest, and audible wheezing. His breathing difficulty was relieved by inhalation of a β-adrenergic agonist and disappeared after the chest infection had resolved. Which of the following pathologic conditions best describes these clinical findings?

- □ (A) Chronic bronchitis with cor pulmonale
- □ (B) Chronic bronchitis with asthmatic bronchitis
- □ (C) Chronic bronchitis with emphysema
- □ (D) Bronchiectasis
- □ (E) Hypersensitivity pneumonitis

Answer & B تحاميزنا

10 A 50-year-old man comes to the physician with gradually increasing dyspnea and a 4-kg weight loss over the past 2 years. He admits to smoking two packs of cigarettes per day for 20 years, but states that he has not smoked for the past year. Physical examination shows an increase in the anteroposterior diameter of the chest ("barrel chest"). Auscultation of the chest shows decreased lung sounds. A chest radiograph shows bilateral hyperlucent lungs; the lucency is especially marked in the upper lobes. Pulmonary function tests show that the FEV_1 is markedly decreased, but the FVC is normal, and FEV_1/FVC ratio is decreased. Which of the following is most likely to contribute to the pathogenesis of his disease?

- □ (A) Impaired hepatic release of α_1-antitrypsin
- □ (B) Release of elastase from neutrophils
- □ (C) Abnormal epithelial cell chloride ion transport
- □ (D) Decreased ciliary motility with irregular dynein arms
- □ (E) Macrophage recruitment and release of interferon-γ

Answer : B

14 A 50-year-old man has developed truncal obesity, back pain, and skin that bruises easily over the past 5 months. On physical examination, he is afebrile, and his blood pressure is 160/95 mm Hg. A chest radiograph shows an ill-defined, 4-cm mass involving the left hilum of the lung. Cytologic examination of bronchial washings from bronchoscopy shows round cells that have the appearance of lymphocytes but are larger. The patient is told that, although his disease is apparently localized to one side of the chest cavity, surgical treatment is unlikely to be curative. He also is advised to stop smoking. Which of the following neoplasms is most likely to be present in this patient?

- □ (A) Adenocarcinoma
- □ (B) Bronchial carcinoid
- □ (C) Bronchioloalveolar carcinoma
- □ (D) Large-cell carcinoma
- □ (E) Metastatic renal cell carcinoma
- □ (F) Non-Hodgkin lymphoma
- □ (G) Small-cell carcinoma
- □ (H) Squamous cell carcinoma

Answer : G ⟹ Truncal obesity is Cushing disease symptom ((Paraneoplasm))
+ smoker + double the size of lymphocytes

17 A 49-year-old man has had increasing dyspnea for the past 4 years. He has an occasional cough with minimal sputum production. On physical examination, his lungs are hyperresonant with expiratory wheezes. Pulmonary function tests show increased total lung capacity (TLC) with slightly increased FVC and decreased FEV_1 and FEV_1/FVC ratio. Arterial blood gas measurement shows pH of 7.35; Po_2, 65 mm Hg; and Pco_2, 45 mm Hg. Which of the following disease processes should most often be suspected as a cause of these findings?

- ☐ (A) Primary adenocarcinoma
- ☐ (B) Centrilobular emphysema
- ☐ (C) Diffuse alveolar damage
- ☐ (D) Chronic pulmonary embolism
- ☐ (E) Sarcoidosis
- ☐ (F) Pneumoconiosis

Answer : B ⟹ ↑TLC is huge indicator to emphysema

18 A 70-year-old woman is referred to an ophthalmologist because of difficulty with her right eye. She also has pain in the right upper chest. The findings on physical examination include enophthalmos, meiosis, anhidrosis, and ptosis. A chest radiograph shows right upper lobe opacification and bony destruction of the right first rib. Which of the following conditions is most likely to be present?

- ☐ (A) Bronchopneumonia
- ☐ (B) Bronchiectasis
- ☐ (C) Bronchogenic carcinoma
- ☐ (D) Sarcoidosis
- ☐ (E) Tuberculosis

Answer : C ⟹ سيبكم من الجواب أهم شي نعرف إنه Pancoast tumor
وهاظا ال Tumor دائماً Related مع Large Cell Carcinoma

20 A 60-year-old farmer has a 15-year history of increasing dyspnea. On physical examination, his temperature is 37.6°C. A chest radiograph shows a bilateral increase in linear markings. Pulmonary function tests show reduced FVC with a normal FEV_1. A transbronchial lung biopsy specimen shows interstitial infiltrates of lymphocytes and plasma cells, minimal interstitial fibrosis, and small granulomas. What is the most likely cause of this clinical and pathologic picture?

- ▫ (A) Chronic inhalation of silica particles
- ▫ (B) Prolonged exposure to asbestos
- ▫ (C) Hypersensitivity to spores of actinomycetes
- ▫ (D) Infection with *Mycobacterium tuberculosis*
- ▫ (E) Auto-antibodies that react with alveolar basement membranes

Answer : C → He is a farmer so it's farmers' lungs wich is always associated with hypersensitivity Pnuemonitis

21 A 20-year-old, previously healthy man is jogging one morning when he trips and falls to the ground. He suddenly becomes markedly short of breath. His jogging partner brings him to the emergency department where on examination there are no breath sounds audible over the right chest. A chest radiograph shows shift of the mediastinum from right to left. A right chest tube is inserted, and air rushes out. Which of the following types of obstructive lung disease is the most likely diagnosis?

- ▫ (A) Asthma
- ▫ (B) Bronchiectasis
- ▫ (C) Centriacinar emphysema
- ▫ (D) Chronic bronchitis
- ▫ (E) Distal acinar emphysema

Answer : E

جابوها بمحاضرة
برضه

22 A 6-year-old child puts the contents of a bag of peanuts in his mouth and then takes a deep breath with the idea of blowing the peanuts out all over his sister. He aspirates a peanut during this maneuver. One day later, he has slight dyspnea. On physical examination, his temperature is 36.8°C, pulse is 70/min, respirations are 17/min, and blood pressure is 90/60 mm Hg. There are decreased breath sounds on auscultation and increased tympany on percussion over the right lower lung posteriorly. Chest CT scan shows a hemicircular area of density in the right lower lobe. Laboratory studies show a hemoglobin concentration of 13.6 g/dL and WBC count of 6175/mm^3. Gram stain of sputum shows normal flora. Which of the following complications has this child most likely developed?

- ▫ (A) Bronchiectasis
- ▫ (B) Resorption atelectasis
- ▫ (C) Bronchopneumonia
- ▫ (D) Pneumothorax
- ▫ (E) Lung abscess

Answer : B

23 A 49-year-old man has sudden onset of severe lower abdominal pain with hematuria. He passes a ureteral calculus. Laboratory studies show that the calculus is composed of calcium oxalate. He is found to have a serum calcium concentration of 10.2 mg/dL, High serum phosphorus level of 2.9 mg/dL, and serum albumin level of 4.6 g/dL. A chest radiograph shows a 7-cm hilar mass in the right lung. Chest CT scan shows prominent central necrosis in this mass. Which of the following neoplasms is most likely to be associated with these findings?

- □ (A) Metastatic colonic adenocarcinoma
- □ (B) Small cell anaplastic carcinoma
- □ (C) Bronchioloalveolar carcinoma
- □ (D) Squamous cell carcinoma
- □ (E) Large-cell carcinoma

Answer: D ⇒ hyperCalcemia ((Normal Calcium level is 2,1 to 2,6))

25 A 64-year-old man, who is a chain smoker, sees his physician because he had had a cough and a 5-kg weight loss over the past 3 months. Physical examination shows clubbing of the fingers. He is afebrile. A chest radiograph shows no hilar adenopathy, but there is cavitation within a 3-cm lesion near the right hilum. Laboratory studies are unremarkable except for a calcium level of 12.3 mg/dL, phosphorus concentration of 2.4 mg/dL, and albumin level of 3.9 g/dL. Bronchoscopy shows a lesion almost occluding the right main stem bronchus. A biopsy is performed. Based on the pathologist's report and further testing, including chest and abdomen CT and bone scans, the patient is told that a surgical

procedure with curative intent would be attempted. Which of the following neoplasms is most likely to be present in this patient?

- □ (A) Adenocarcinoma
- □ (B) Bronchioloalveolar carcinoma
- □ (C) Kaposi sarcoma
- □ (D) Large-cell carcinoma
- □ (E) Metastatic renal cell carcinoma
- □ (F) Non-Hodgkin lymphoma
- □ (G) Small-cell carcinoma
- □ (H) Squamous cell carcinoma

Answer: H

نفس مبدأ السؤال اللي فوق

28 A 35-year-old man comes to the nurse practitioner because of a 5-year history of episodes of wheezing and coughing.

The episodes are more common during the winter months, and he has noticed that they often follow minor respiratory tract infections. In the period between the episodes, he can breathe normally. There is no family history of asthma or other allergies. On physical examination, there are no remarkable findings. A chest radiograph shows no abnormalities. A serum IgE level and WBC count are normal. Which of the following is the most likely mechanism that contributes to the findings in this illness?

- □ (A) Accumulation of mast cells in airspaces after viral infections
- □ (B) Emigration of eosinophils into bronchi
- □ (C) Bronchial hyper-reactivity to virus-induced inflammation
- □ (D) Secretion of interleukin (IL)-4 and IL-5 by antiviral T cells
- □ (E) Hyper-responsiveness to inhaled spores of *Aspergillus*

Answer: C ⇒ Non-atopic Asthma

29 A 78-year-old man has had increasing dyspnea without cough or increased sputum production for the past 4 months. On physical examination, he is afebrile. Breath sounds are reduced in all lung fields. A chest CT scan shows a dense, bright, right pleural mass encasing most of the left lung. Microscopic examination of a pleural biopsy specimen shows spindle and cuboidal cells that invade adipose tissue. Inhalation of which of the following pollutants is the most likely factor in the pathogenesis of this mass?

- □ (A) Asbestos
- □ (B) Bird dust
- □ (C) Silica
- □ (D) Cotton fibers
- □ (E) Coal dust
- □ (F) Ozone

Answer: A

32 A 56-year-old man with ischemic heart disease undergoes coronary artery bypass graft surgery under general anesthesia. Two days postoperatively, he experiences increasing respiratory difficulty with decreasing arterial oxygen saturation. On physical examination, he is afebrile. His heart rate is regular at 78/min, respirations are 20/min, and blood pressure is 135/85 mm Hg. The hemoglobin concentration has remained unchanged, at 13.7 g/dL, since surgery. After he coughs up a large amount of mucoid sputum, his condition improves. Which of the following is the most likely explanation of these findings?

- □ (A) Resorption atelectasis
- □ (B) Compression atelectasis
- □ (C) Microatelectasis
- □ (D) Contraction atelectasis
- □ (E) Relaxation atelectasis

Answer: A

بحاضرته والله.

((المقصد أنه ابصوا أسئلة Robbins بصعبة ماجيبيب إلا منها.))

35 For the past 6 years, a 45-year-old woman has had increasing respiratory difficulty that limits her activities. She does not smoke. On physical examination, she is afebrile and normotensive. Her lungs are hyperresonant. A chest radiograph shows flattening of the diaphragmatic leaves. Laboratory studies show the PiZZ phenotype of α_1-antitrypsin deficiency. Which of the following is most likely present in the lungs?

- □ (A) Sarcoidosis

- □ (B) Bronchiectasis
- □ (C) Interstitial fibrosis
- □ (D) Microatelectasis
- □ (E) Panacinar emphysema

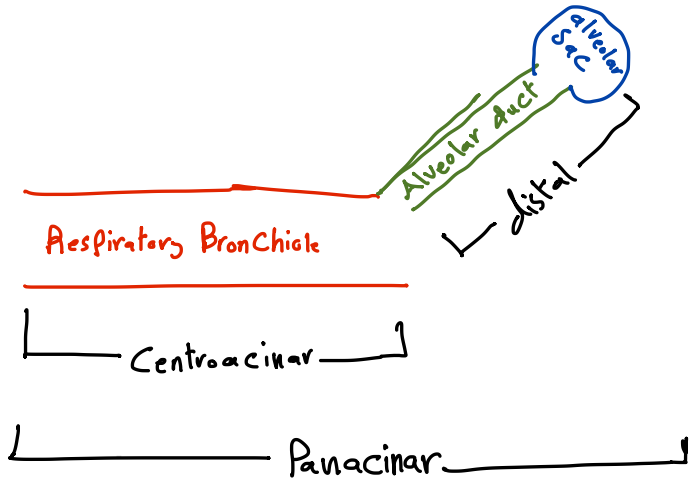
Answer: E

39 A study is conducted of individuals who smoked at least one pack of cigarettes per day for 30 years. These individuals undergo pulmonary function testing, and a large subset is found to have decreased FEV_1, normal to decreased FVC, and FEV_1/FVC ratios less than 70%. All participants in the study are found to have an increased risk of pulmonary bacterial infections. They are found to have increasing hypoxemia over time. Autopsy data from the subset of individuals in the study with low FEV_1/FVC ratio who die of their underlying pulmonary disease are analyzed. Which of the following structures in the lungs is likely to be affected the most by the underlying disease?

- □ (A) Alveolar sac
- □ (B) Terminal bronchiole
- □ (C) Alveolar duct
- □ (D) Respiratory bronchiole
- □ (E) Capillary

حبيت تعلق بمتنا

Answer : D



40 A 40-year-old man has had an increasing cough with hemoptysis for 2 weeks. On physical examination, his temperature is 38.2°C. A chest radiograph shows an area of consolidation in the right upper lobe. His condition improves with antibiotic therapy; however, the cough and hemoptysis persist for 2 more weeks. Chest CT scan shows right upper lung atelectasis. Bronchoscopic examination shows an obstructive mass filling the bronchus of the right upper lobe. Which of the following neoplasms is most likely to produce these findings?

- □ (A) Hamartoma
- □ (B) Adenocarcinoma
- □ (C) Large-cell carcinoma
- □ (D) Kaposi sarcoma
- □ (E) Carcinoid tumor

Answer : E

Obstruction كثير بيعمل Carcinoid الـ
وكثير بسبب الـ Bronchus

41 A 12-year-old girl is brought to the physician because of a history of coughing and wheezing and repeated attacks of difficulty breathing. The attacks are particularly common in the spring. During an episode of acute respiratory difficulty, a physical examination shows that she is afebrile. Her lungs are hyperresonant, and a chest radiograph shows increased lucency of all lung fields. Laboratory tests show an elevated serum IgE level and peripheral blood eosinophilia. A sputum sample examined microscopically also has increased numbers of eosinophils. Which of the following histologic features is most likely to characterize the lung in this patient's acute condition?

- □ (A) Dilation of respiratory bronchiole and distention of alveoli
- □ (B) Dilation of bronchi with inflammatory destruction of walls
- □ (C) Interstitial and alveolar edema with presence of hyaline membranes that line alveoli
- □ (D) Thickening of bronchial epithelial basement membrane and hypertrophy of bronchial smooth muscle
- □ (E) Patchy areas of consolidation surrounding bronchioles and neutrophilic exudate in affected alveoli

Answer: D ⇒ Atopic Asthma

42 A 40-year-old man comes to the physician because of a 6-year history of increasing shortness of breath and weakness. On physical examination, he is afebrile and normotensive. A radiograph of the chest shows diffuse interstitial markings. Pulmonary function tests indicate diminished FVC, decreased diffusing capacity, and a normal FEV_1/FVC ratio. Which of the following sets of pathologic changes is most likely to be found in the lungs?

- □ (A) Voluminous lungs with uniform dilation of airspaces distal to respiratory bronchioles
- □ (B) Chronic inflammatory cells in bronchi with a marked increase in size of mucous glands

- □ (C) Honeycomb lung with widespread alveolar septal fibrosis and hyperplasia of type II pneumocytes
- □ (D) Chronic inflammation of bronchial walls with prominence of eosinophils
- □ (E) Edematous, congested lungs with widespread necrosis of alveolar epithelial cells and prominent hyaline membranes

Answer: C

Restrictive الـ هو الخيار الوحيد

بحزّن

44 A 55-year-old man has experienced increasing respiratory difficulty for the past 18 months. He can no longer pass the yearly physical examination required to maintain active status as an airline pilot, the only occupation that he has ever had. There are no remarkable findings on physical examination. Pulmonary function tests show that FEV_1 is normal, but FVC is diminished. A chest radiograph shows diffuse interstitial disease, but no masses and no hilar adenopathy. The results of ANA and anti-DNA topoisomerase I antibody testing are negative. What is the most likely diagnosis?

- □ (A) Scleroderma
- □ (B) Goodpasture syndrome
- □ (C) Silicosis
- □ (D) Diffuse alveolar damage
- □ (E) Idiopathic pulmonary fibrosis

Answer: E

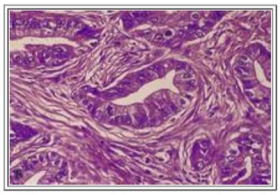
لما الـ FVC ينزل كثير فهاد دليل على restrictive

45 A 54-year-old woman has had a mild fever with cough for the past week. Her symptoms gradually improve over the next 10 days. She then begins to have increasing fever, cough, shortness of breath, and malaise. On physical examination, her temperature is 37.9°C. There are inspiratory crackles on auscultation of the chest. A chest radiograph shows bilateral, patchy, small alveolar opacities. Chest CT scan shows small, scattered, ground-glass and nodular opacities. A transbronchial biopsy specimen shows polypoid plugs of loose fibrous tissue and granulation tissue filling bronchioles, along with a surrounding interstitial infiltrate of mononuclear cells. She receives a course of corticosteroid therapy, and her condition improves. Which of the following is the most likely diagnosis?

- □ (A) Bronchiolitis obliterans with organizing pneumonia
- □ (B) Desquamative interstitial pneumonitis
- □ (C) Diffuse alveolar damage
- □ (D) Hypersensitivity pneumonitis
- □ (E) Pulmonary alveolar proteinosis
- □ (F) Wegener granulomatosis

Answer: A

أول سماعك لكلمة Plug بسكر R.bronchiole عالريح فكر بـ Crybtogenic



49 A 60-year-old woman has had a chronic nonproductive cough for 4 months along with loss of appetite and a 6-kg weight loss. She does not smoke. On physical examination there are no remarkable findings. Her chest radiograph shows a right peripheral subpleural mass. A fine-needle aspiration biopsy is performed, and she undergoes a right lower lobectomy. The microscopic appearance of the lesion is shown in the figure. She receives therapy directed at epithelial growth factor receptor (EGFR) and remains symptom-free for the next 10 years. Which of the following neoplasms did she most likely have?

- □ (A) Adenocarcinoma
- □ (B) Bronchial carcinoid
- □ (C) Bronchioloalveolar carcinoma
- □ (D) Hamartoma
- □ (E) Large-cell carcinoma
- □ (F) Small-cell anaplastic carcinoma
- □ (G) Squamous cell carcinoma

Answer is A

51 A 61-year-old woman has experienced increasing dyspnea and a nonproductive cough for 5 months. On physical examination, her temperature is 37.7°C. A chest radiograph shows prominent hilar lymphadenopathy with reticulonodular infiltrates bilaterally. A transbronchial biopsy is performed, and the microscopic findings include interstitial fibrosis and

small, noncaseating granulomas. One granuloma contains an asteroid body in a giant cell. The medical history indicates that she smoked cigarettes for 10 years, but stopped 5 years ago. Which of the following is the most likely cause of her illness?

- □ (A) Delayed hypersensitivity response to an unknown antigen
- □ (B) Immune complexes formed in response to inhaled antigens
- □ (C) Diffuse alveolar damage
- □ (D) Smoke inhalation for many years
- □ (E) Infection with atypical mycobacteria

لازم تحفظ

Answer: A ⇒ Sarcoidosis

Delayed immune Response = Sarcoidosis

Immune Complexes = H. Pnuemonitis

Antigen وبسبب episodic بيجي Pnuemonitis لأنه الـ B لسيش ما اخترنا

52 A 62-year-old man is a smoker with a 10-year history of cough productive of copious mucopurulent sputum. Over the past 6 months, he has developed progressive dyspnea. Physical examination shows bilateral pedal edema and a soft but enlarged liver. A chest radiograph shows bilateral pleural effusions and a prominent heart border on the right side. Arterial blood gas values are Po_2, 60 mm Hg; Pco_2, 55 mm Hg; pH, 7.31; and HCO_3^-, 28 mEq/L. The patient is intubated and placed on a ventilator, and he requires increasing amounts of oxygen. He dies 6 days later. At autopsy, which of the following microscopic findings is most likely to be characteristic of his underlying pulmonary disease?

- □ (A) Infiltrates of eosinophils
- □ (B) Extensive interstitial fibrosis
- □ (C) Granulomas in bronchovascular distribution
- □ (D) Carcinoma filling lymphatic spaces
- □ (E) Hypertrophy of bronchial submucosal glands

Answer: E ⇒ Chronic bronchitis because: 1- smoker
2- edema
3- mucous hypersecretion

57 A 40-year-old woman has never smoked and works as a file clerk at a university that designates all work areas as "nonsmoking." She goes to the physician for a routine health maintenance examination. On physical examination, there are no remarkable findings. A routine chest radiograph shows a 3-cm, sharply demarcated mass in the left upper lobe of the lung. Fine-needle aspiration of the mass is attempted, but the pathologist performing the procedure remarks, "This is like trying to biopsy a ping-pong ball." No tissue is obtained. Thoracotomy with wedge resection is performed. On sectioning, the mass has a firm, glistening, bluish white cut surface. A culture of the mass yields no growth. Which of the following terms best describes this mass?

- □ (A) Adenocarcinoma
- □ (B) Hamartoma
- □ (C) Large-cell carcinoma
- □ (D) Mesothelioma
- □ (E) Non-Hodgkin lymphoma
- □ (F) Squamous cell carcinoma

Answer: B ⇒ well demarcated benigne non-metastatic ((no growth))

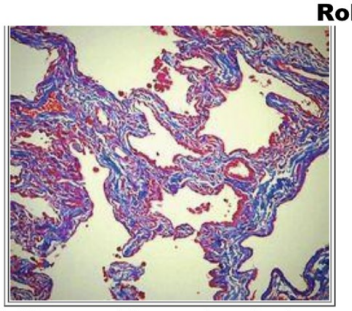
58 One day after moving into a new apartment, a 25-year-old man experiences acute onset of fever, cough, dyspnea, headache, and malaise. The symptoms subside over several days when he visits a friend in another city. On the day of his return, he visits the physician. There are no remarkable findings on physical examination. A chest radiograph also is

unremarkable. Which of the following is most likely to produce these findings?

- □ (A) Antigen-antibody complex formation
- □ (B) Attachment of antibodies to basement membrane
- □ (C) Formation of mycolic acid
- □ (D) Generation of prostaglandins
- □ (E) Release of histamine
- □ (F) Release of leukotrienes
- □ (G) Toxic injury to type I pneumocytes

Answer: A ⇒ Pnuemonitis

عشان نقل غرفته استنشق Mold من الـ AC ((سؤال مستخز بس clinically مفيد



61 A 63-year-old man has had worsening dyspnea with a nonproductive cough for the past 9 months. On physical examination, he is afebrile and normotensive. His heart rate is 77/min and regular. On auscultation of the chest, diffuse dry crackles are heard in all lung fields. There are no other significant physical findings. A chest radiograph shows irregular opacifications throughout both lungs. The figure shows a transbronchial biopsy specimen colored with trichrome stain. Laboratory studies include negative serologic tests for ANA, anti-DNA topoisomerase I, ANCA, and anticentromere antibody. Despite glucocorticoid therapy, his condition does not improve, and he dies 2 years later. What is the most likely diagnosis?

- □ (A) Acute respiratory distress syndrome
- □ (B) Goodpasture's syndrome
- □ (C) Idiopathic pulmonary fibrosis
- □ (D) Sarcoidosis
- □ (E) Scleroderma
- □ (F) Wegener granulomatosis

Answer: C ⇒ nonproductive cough + worsening + the 2 years أهم شي .