

Final RS – 019

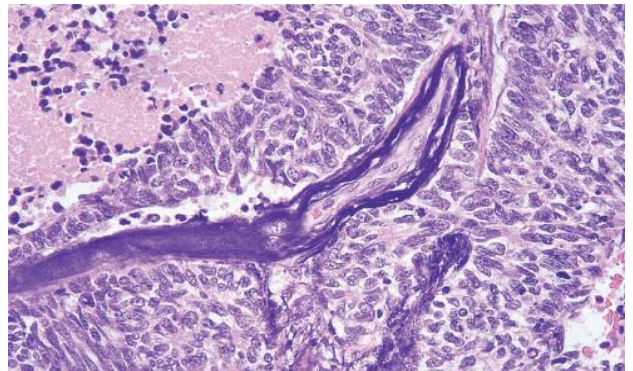
Theory part



Pathology (9 lectures - Dr.Maram)

1) case about man, heavy smoker, presented to the clinic with nausea, vomiting and malaise. A clinical history and physical examination and lab results revealed signs and symptoms consistent with the syndrome of inappropriate antidiuretic hormone. A chest X-Ray showed an ill-defined 5 cm mass involving the left hilum of the lung, lung biopsy was performed and captured in the figure below, based on your diagnosis, which of the following statement is CORRECT?

- A} surgery is a curative treatment
- B} It's an asbestos related tumor
- C} Early involvement of lymph nodes
- D} It's an undifferentiated tumor
- E} This tumor never metastasize



2) A 40-year-old man, non-smoker, presented with increasing dyspnea for the past 5 years, the disease involve mainly the lower lung lobe, pulmonary function test showed an obstructive pattern, A lung biopsy showed enlarged air spaces and destruction of alveolar wall without fibrosis, what is the most likely cause of this disease?

- A} Type-1 IgE mediated hypersensitivity reaction
- B} Genetic abnormality resulting in primary ciliary dyskinesia
- C} Reduced anti-elastase activity
- D} Mucus hypersecretion and outflow obstruction
- E} poorly differentiated adenocarcinoma

3) Regarding bronchiectasis, one of the following statements is CORRECT?

- A} It's a primary inherited pulmonary disease
- B} considered as reversible obstructive pulmonary disease
- C} Alveolar sacs are the most involved part
- D} Heals with complete resolution and no fibrosis
- E} patient present with cough and purulent sputum

4) Regarding lung tumors, one of the following is CORRECT?

- A} small cell carcinoma is the most common type
- B} Lung hamartomas are classified as developmental anomalies
- C} squamous cell carcinoma are the most common tumors in women
- D} Most carcinoids are peripherally located in the lung
- E} Mesothelioma can be epithelial, sarcomatous, or mixed

5) Regarding pneumoconiosis, one of the following is correct?

- A} Coal worker pneumoconiosis is associated with increase risk of lung cancer
- B} Pleural plaques are the most common manifestation of asbestos exposure
- C} pneumoconiosis is defined as chronic restrictive lung disease with unknown etiologiy
- D} Pulmonary anthracosis is associated with progressive dyspnea and cough

6) Case about man with chronic cough and weight loss, clapping of fingers, X-Ray shows left sub-pleural proliferation, lung biopsy shows glandular formation, TTF-1 immune stain is positive, what is your diagnosis?

- A} Adenocarcinoma
- B} Squamous cell carcinoma
- C} Small cell carcinoma
- D} Large cell neuroendocrine carcinoma
- E} Sarcomatous mesothelioma

7) Regarding sarcoidosis one of the following is CORRECT?

- A} hypercalcemia in sarcoidosis isn't related to bone destruction
- B} the presence of non-caseating granuloma in lung biopsy is diagnostic
- C} Asteroid bodies are laminated concretions that contain calcium
- D} the non-caseating granulomas are centred within the alveolar spaces
- E} Corneal opacification are the most common presentation of eye involvement

8) Regarding pulmonary embolism, which statement is correct?

- A} large saddle PE are associated with no histologic alteration
- B} most PE arise from thrombi in the heart ventricle
- C} pulmonary infarcts are usually in the upper lobe
- D} the most common symptom of PE is progressive dyspnea
- E} bone marrow embolism is common in IV drug abusers

9) Case about man with increasing dyspnea, smoker for 25 years, physical examination shows decreased breathing sound over the upper lung, radiography shows hyperventilation, pulmonary function test shows obstructive pattern, which structure is mostly affected by this disease?

- A} main bronchi
- B} terminal bronchioles
- C} respiratory bronchioles
- D} alveolar duct and sack
- E} pleural lining

10) which of the following is associated with slowly progressive restrictive lung disease showing whorls of concentrically arranged hyalinized collagen bundles surrounding amorphous centre?

- A} coal dust
- B} tobacco smoke
- C} Mushroom
- D} crystalline silica
- E} asbestos

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11) Regarding the pathogenesis of atopic asthma one of the following statements is correct?

- A} the initial response upon first exposure is associated with type-1 helper lymphocyte activation
- B} IL-4 & IL-5 are secreted from alveolar macrophages during the early phase response
- C} phago-lysosomal maturation arrest is essential in the pathogenesis during early phase
- D} Eotaxin is a potent chemoattractant and activator of eosinophils in late phase
- E} early phase is triggered by antigen induced crosslinking of IgG bound to receptor on mast cells

12) which of the following diseases affect the lower lung lobe?

- A} distal acinar emphysema
- B} silicosis
- C} Bronchiectasis
- D} coal worker pneumoconiosis
- E} hypersensitivity pneumonitis

13) Regarding primary pulmonary TB which is correct?

- A} T-cell mediated immune response develops within the first 30 minutes after exposure
- B} bacteraemia is usually asymptomatic or associated with mild symptoms
- C} the first step after mycobacteria entry is the activation of phagolysosome killing
- D} TNF mobilizes antimicrobial defensins against the mycobacteria
- E} IL-12 stimulate expression of inducible nitric oxide synthase to produce nitric oxide

14) Regarding TB, one of the following is correct?

- A} mycobacterium avium complex is associated with intestinal TB
- B} Pulmonary TB is associated with extensive lymph node involvement
- C} 95% of primary TB causes develops a progressive disease
- D} Apical lung involvement is characteristic of secondary TB
- E} lung cavitation is more common during primary disease

15) Regarding cobble stone appearance of the pleural surface which statement is correct?

- A} associated with usual interstitial pneumonia pattern (UIP) of fibrosis
- B} characteristic of pleural involvement by malignant mesothelioma
- C} happens due to lung hyperinflation and air trapping
- D} associated with miliary pulmonary tuberculosis
- E} characteristic of non-specific interstitial pneumonia (NISP)

16) Regarding pneumoconiosis which is correct?

- A} the most dangerous mineral dust particle range in size between 5-10 μm
- B} tobacco smoking worsens the effect of all inhaled minerals dust except for asbestosis
- C} simple coal worker pneumoconiosis is associated with centre-acinar emphysema
- D} the pure form of quartz is less fibro-genic and toxic than mixed form
- E} Asbestosis is associated with increased risk of primary tuberculosis

1	C	5	B	9	C	13	B
2	C	6	A	10	D	14	D
3	E	7	A	11	D	15	A
4	E	8	A	12	C	16	C

Pharmacology (5 lectures – Dr.Munir)

1) Drugs that suppress cough may be used for?

- A} cough of bronchial asthma
- B} dry cough that cannot be made productive
- C} cough caused by suppurative lesions in the airway
- D} cough in children
- E} cystic fibrosis

2) All the following are considered as useful expectorants and mucolytic agents, EXCEPT?

- A} water
- B} syrups
- C} codeine
- D} ipecacuanha
- E} Menthol

3) A drug useful in the prophylactic treatment of bronchial asthma but lacks bronchodilator action?

- A} Cromolyn sodium
- B} Ephedrine
- C} Isoproterenol
- D} Metaproterenol
- E} Metoprolol

4) All of the following are problems with methylxanthines in treating bronchial asthma, EXCEPT?

- A} Method of administration
- B} Variability in hepatic metabolism
- C} cardiac toxicity
- D} CNS toxicity
- E} drug-drug interaction

5) Bronchospasm induced by the use of beta-adrenergic blockers might be best relieved by?

- A} β_2 -adrenergic agonists
- B} Anticholinergics
- C} Corticosteroids
- D} Cromolyn Na and Nedocromil
- E} Leukotrienes modifiers

6) Asthma patients, who are homozygous for arginine at the B16 locus of the β receptor, might deteriorate with regular use of which class of the following drugs?

- A} β_2 agonist
- B} Anticholinergics
- C} corticosteroids
- D} cromolyn Na and nedocromil
- E} Leukotrienes modifiers

7) In the treatment of TB all of the following are considered primary or first line drug?

- A) Isoniazid (INH)
- B) Rifampin
- C) Ethionamide
- D) Ethambutol
- E) Streptomycin

8) which statement is wrong about the mechanism of anti-TB agents?

- A) INH blocks mycolic acid synthesis and consequently cell wall synthesis
- B) Rifampin inhibits RNA synthesis
- C) Streptomycin blocks the ability of 30S ribosomal subunit to make protein
- D) Para-amino-salicylic-acid is a folate synthesis antagonist
- E) Although related to Rifampin, Rifabutin inhibits cell wall synthesis

9) KatG, is important in the activation of the following anti-TB drug?

- A) Dapsone
- B) Isoniazid
- C) Rifampin
- D) Erythromycin
- E) Streptomycin

1	B	4	A	7	C
2	C	5	B	8	E
3	A	6	A	9	B

Physiology (4 lectures – Dr.Yanal)

1) In diving, divers first hyperventilate before they go into water. This hyperventilation allows one to hold one's breath for a longer period of time, because hyperventilation?

- A) increases the oxygen reserve of systemic arterial blood
- B) decreases the PCO₂ of systemic arterial blood
- C) decreases the pH of systemic arterial blood
- D) increases brain blood flow
- E) none of the above, since hyperventilation just reduces the time an individual can voluntarily stop breathing

2) Carotid bodies?

- A) Respond only to increase/ decrease arterial pH
- B) Respond only to low/high PaO₂
- C) stimulated by carbon monoxide
- D) having the lowest arterio-venous O₂ difference in our body
- E) Having the lowest blood flow in the body (ml/g/min)

3) Right shift of the oxyhemoglobin dissociation curve is consistent with?

- A) decreased temperature
- B) Carboxy-hemoglobin
- C) HbF
- D) increased P50
- E) ascending to high altitude

4) An 80-year-old female presented to the emergency department and diagnosed with pulmonary edema due to left heart failure, which of the following additional findings is most likely present in this patient?

- A) decreased pulmonary artery pressure
- B) decreased pulmonary lymph flow
- C) increased pulmonary venous pressure
- D) increased vital capacity
- E) normal arterial oxygen partial pressure

5) A 20-year-old male college student participates in a pulmonary study in his physiology lab. He is healthy and in good physical shape. He is asked to run on a treadmill for 20 minutes at a moderate pace, during which time his arterial PCO₂ is measured, what is his predicted arterial PCO₂ (in mm Hg)?

- A) 10
- B) 20
- C) 40
- D) 60
- E) 80

6) a girl found exposed to CO, but she is breathing on her own, her skin colour is cherry red, which of the following findings is expected to be decreased in this girl?

- A) Alveolar PO₂
- B) Arterial O₂ conc.
- C) Arterial PCO₂
- D) Arterial PO₂
- E) Alveolar PCO₂

7) As lung volume increases toward the TLC, which of the following changes occur to alveolar and extra-alveolar vascular resistance?

- A) Alveolar vascular resistance ↑ // Extra-alveolar vascular resistance ↑
- B) Alveolar vascular resistance ↓ // Extra-alveolar vascular resistance ↓
- C) Alveolar vascular resistance ↑ // Extra-alveolar vascular resistance ↓
- D) Alveolar vascular resistance ↓ // Extra-alveolar vascular resistance ↑
- E) Alveolar vascular resistance ↑ // Extra-alveolar vascular resistance ↔

1	B	4	C	7	C
2	D	5	C		
3	D	6	B		

Microbiology (2 lectures – Dr.Malik)

1) The most common cause of community acquired pneumonia is?

- A} Streptococcus mitis
- B} Legionella pneumophila
- C} Coxiella burnetii
- D} Streptococcus pneumonia
- E} Moraxella catarrhalis

2) A 6-year-old boy diagnosed with viral pharyngitis, what's the most likely causative agent?

- A} Influenza C
- B} Rhinovirus
- C} Adenovirus
- D} Metapneumovirus
- E} RSV

3) in a suspected case of viral respiratory tract infection, the laboratory method of choice for diagnosis is?

- A} Viral culture
- B} Viral antigen testing
- C} Nucleic acid sequencing
- D} Multiplex real-time PCR
- E} serologic testing to detect the presence of neutralizing antibodies

4) The most common causative agent of viral rhinosinusitis (common cold) is?

- A} A DNA virus with a low mutation rate
- B} A DNA virus that can be prevented by an effective vaccine
- C} A RNA virus that can be prevented by an effective vaccine
- D} A naked (non-enveloped) RNA virus with more than 150-serotypes
- E} An enveloped RNA virus with segmented genome that can cause pandemic through antigenic shift

5) Bronchiolitis is a common lower respiratory tract infection in infants, the most common cause of this infection is?

- A} Rhinovirus
- B} Adenovirus
- C} Coronavirus
- D} Parainfluenza virus
- E} Respiratory syncytial virus

1	D	3	D	5	E
2	C	4	D		

Embryology & Histology (2 lectures – Dr.Mohammad Al-mohtaseeb)

1) With development of the nose, the philtrum of the upper lip is developed from which of the following?

- A} Frontonasal prominence
- B} Maxillary prominence
- C} Lateral nasal prominence
- D} Medial nasal prominence
- E} Palatal Prominence

2) An x-ray was done to a child one day after birth. The x-ray showed peripheral opaque areas in the lung. What is the most common cause of such a condition?

- A} Collapsed lung due to traumatic delivery
- B} Congenital absence of surfactant
- C} Congenital absence of the peripheral alveoli
- D} pleural effusion (fluid in the pleural cavity)
- E} This is quite normal condition, where the alveoli will inflate several days after delivery

3) the interalveolar septum contains type-1 alveolar cells, in which of the following percentages?

- A} 16%
- B} 8%
- C} 97%
- D} 3%
- E} 36%

4) In development of respiratory tract organs which of the following abnormality could be result with oligohydramnios's?

- A} Respiratory distress syndrome
- B} Atelectasis
- C} Pulmonary hypoplasia
- D} Lung agenesis
- E} Congenital cyst of the lung

1	D
2	E
3	B
4	C

PBL (2 lectures - Dr.Enas)

1) A 4-month-old infant complaining of coughing, shortness of breath and wheezing, the symptoms were preceded by nasal discharge 2-days earlier, he is afebrile, what is the most likely clinical diagnosis of the condition?

- A} Bronchial asthma
- B} Bacterial pneumonia
- C} Viral bronchiolitis
- D} Viral laryngotracheobronchitis
- E} Viral pharyngitis

2) A 5-year-old child present with high grade fever for 5 days, shortness of breath and cough, physical examination revealed decreased air entry, bronchial breathing sound and dullness percussion on the right side of his chest, what's the most appropriate treatment of his condition?

- A} Inhaled corticosteroid
- B} Intravenous corticosteroid
- C} Intravenous ceftriaxone
- D} Inhaled gentamycin
- E} Inhaled salbutamol

3) 2 years child presents to the pediatric clinic with dry barking cough and loud breathing sound during inspiration. This was associated with low grade fever and nasal discharge. On physical examination, the child had inspiratory stridor, hoarseness of voice, and signs of respiratory distress. According to this clinical profile, which part of the respiratory system is likely to be affected by this pathology?

- A} Terminal bronchioles
- B} Lung parenchyma
- C} Larynx and upper trachea
- D} Lung interstitial tissue
- E} Paranasal sinuses

4) A 14-year old child presented with seasonal episodes of dry cough and noise breathing, X-ray shows hyperinflation, and skin prick test was positive for many allergens, pulmonary function test (spirometry) was done, which of the following results is consistent with the clinical condition?

- A} Low FEV1 , Low FVC , Normal FEV1/FVC
- B} Normal FEV1 , Normal FVC , Normal FEV1/FVC
- C} Low FEV1 , Normal FVC , Low FEV1/FVC
- D} Low FEV1 , Low FVC , Low FEV1/FVC
- E} none of the above

انحذف لخطأ مطبوعي في الفرع الرابع جعله صحيحاً

1	C	3	C
2	C	4	C

Practical Part

1) Germ tube test is diagnostic for?

- A} Cryptococcus neoformans
- B} Candida Tropicalis
- C} Candida glabrata
- D} Pseudomonas spp.
- E} None of the above

2) species is frequently associated with nosocomial infection with the following lab results:

- Gram positive coccus arranged in chains
- Beta haemolytic reaction in blood agar
- sensitive to bacitracin

- A} Staphylococcus epidermidis
- B} Streptococcus pyogenes (Group A)
- C} Enterococcus group D
- D} streptococcus pneumonia
- E} staphylococcus Albus

3) Mannitol salt agar is a selective medium for?

- A} β hemolytic streptococci
- B} staphylococcus aureus
- C) Corynebacterium diphtheria
- D} Mycobacterium TB
- E} Streptococcus group D

4) This gram-positive coccobacillus micro-organism arrangement as Chinese letter is isolated from throat swab?

- A} Streptococcus viridans
- B} Streptococcus group A
- C} Streptococcus group B
- D} Diphtheroid spp.
- E} None of the above

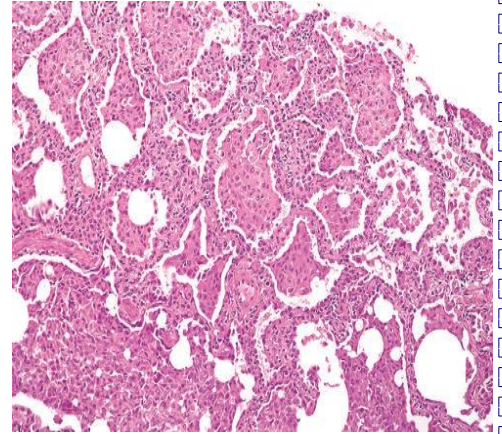
5) which of the following is false concerning the closing volume for the lung?

- A} comes between phase 3 and phase 4 on the single breath N₂ washout curve
- B} Marks the point where the alveoli at the apex close.
- C} Marks a sudden increase in nitrogen concentration in the expelled breath.
- D} Marks when the overinflated, poorly ventilated alveoli at the apex expel their air with high N₂ concentrations.
- E} Is more in COPD

6) which of the following is false concerning the diffusion capacity of the lung?

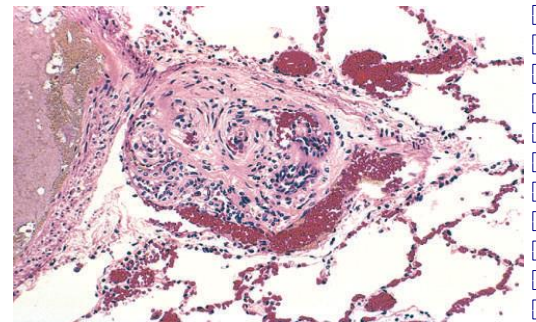
- A) CO used to measure diffusion capacity
- B) Actual diffusion time indicate time required for the O₂ molecule to diffuse from the alveoli through the membrane, plasma and into the RBC
- C) Doubling the area of the membrane would double the total flow of O₂
- D) CO₂ is more diffusible than O₂
- E) the lower the diffusion coefficient, the higher the total flow

7) the figure below shows a lung biopsy from 44-year-old smoker man, the tissue section below was stained with iron stain and showed no hemosiderin deposition, based on your identification and your best diagnosis choose the correct statement?



- A) This disease is associated with extensive pulmonary fibrosis
- B) This disease carries a good prognosis in general
- C) increased pulmonary arterial pressure is characteristic
- D) tissue culture is mandatory for the diagnosis
- E) full body radiograph scans are essential to stage the disease

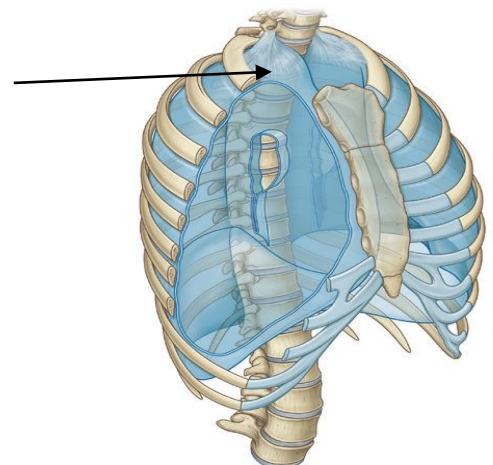
8) According to your identification of the lesion in the figure below, your best diagnosis is?



- A) Sarcoidosis
- B) Coal worker pneumoconiosis
- C) Pulmonary arterial hypertension
- D) Goodpasture syndrome
- E) Pulmonary thromboembolism

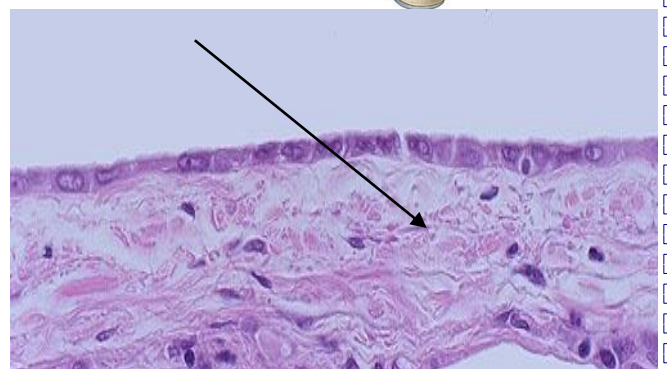
9) The nerve supply of the pointed structure is?

- A) Intercostal nerves
- B) Cervical nerves
- C) Phrenic nerves
- D) Sympathetic nerves
- E) Autonomic nerves



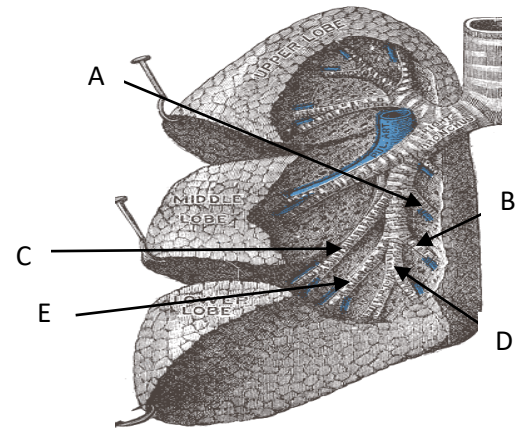
10) Identify the pointed structure?

- A) Mesothelial cells
- B) Collagen fibres
- C) Seromucous glands
- D) Fibroblast cells
- E) smooth muscle



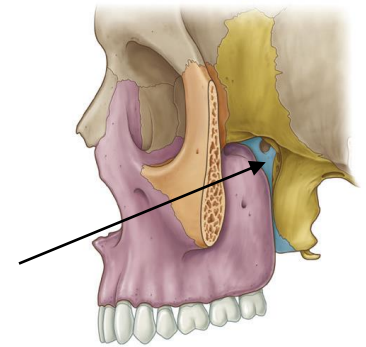
11) Child swallowed a foreign body which passes through the respiratory tract, in which of the following pointed bronchopulmonary segment the foreign body most likely lodged in?

- A) A
- B) B
- C) C
- D) D
- E) E



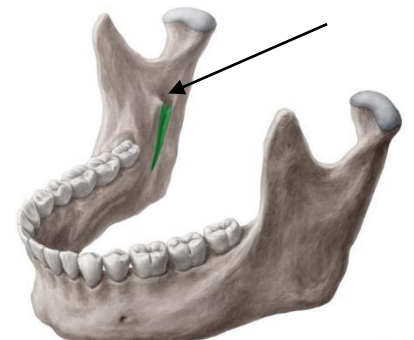
12) the pointed fossa is bounded by all of the following bones except?

- A) Maxilla
- B) b-Palatine
- C) Pterygoid
- D) Temporal
- E) Sphenoid



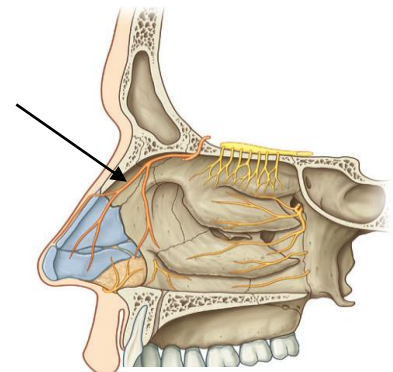
13) Identify the artery which passes through the pointed foramen?

- A) Buccal artery
- B) Masseteric artery
- C) Middle meningeal artery
- D) Inferior alveolar artery
- E) Lingual artery



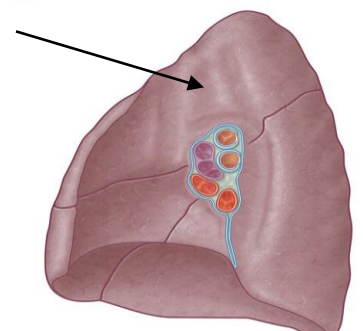
14) Identify the pointed structure?

- A) Nasopalatine nerve
- B) Anterior ethmoidal nerve
- C) Greater palatine nerve
- D) Lesser palatine nerve
- E) Infraorbital nerve



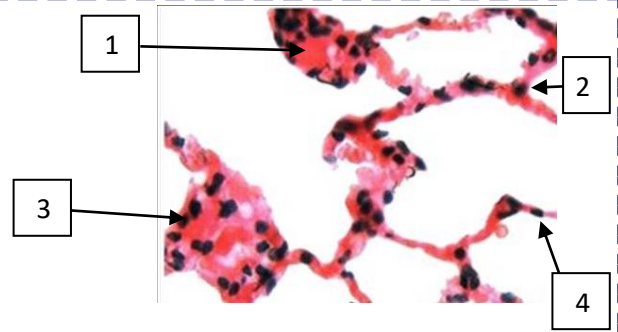
15) Identify the pointed structure?

- A) Esophagus
- B) Brachiocephalic vein
- C) Left common carotid artery
- D) Trachea
- E) Superior vena cava



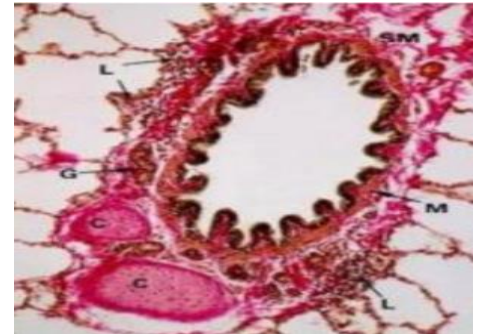
16) Identify the endothelial cell?

- A) 1
- B) 2
- C) 3
- D) 4
- E) 1+2



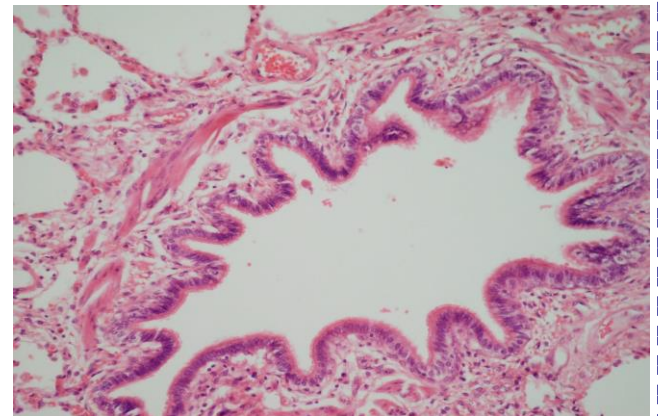
17) Identify this section?

- A) Primary bronchus
- B) secondary bronchus
- C) tertiary bronchus
- D) Large terminal bronchus
- E) small terminal bronchus



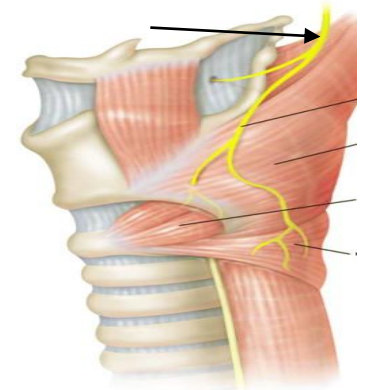
18) This section characterised by all the following except?

- A) The lining epithelium is respiratory
- B) the mucosa has abundant folding
- C) it has no glands
- D) it has no cartilage
- E) it has no lymphatic nodules



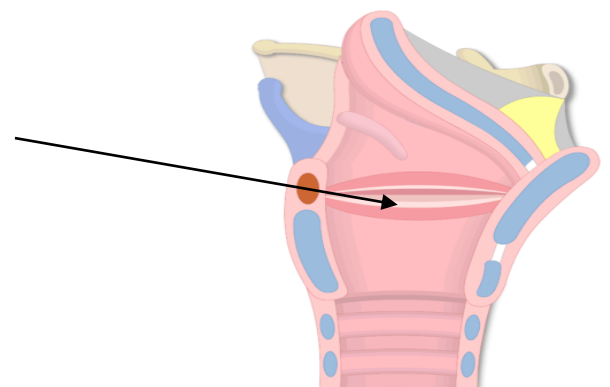
19) Identify the pointed structure?

- A) Internal laryngeal nerve
- B) External laryngeal nerve
- C) Recurrent laryngeal nerve
- D) Superior laryngeal nerve
- E) Inferior laryngeal nerve



20) All the following muscles are working on the pointed structure except one?

- A) Cricothyroid
- B) Lateral cricothyroid
- C) Oblique arytenoid
- D) Vocalis
- E) Transverses arytenoid



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

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