

TEST BANK

Doctor 2019

SUBJECT:

CARDIOTHORACIC SURGERY -
FINAL THEORY COLLECTION

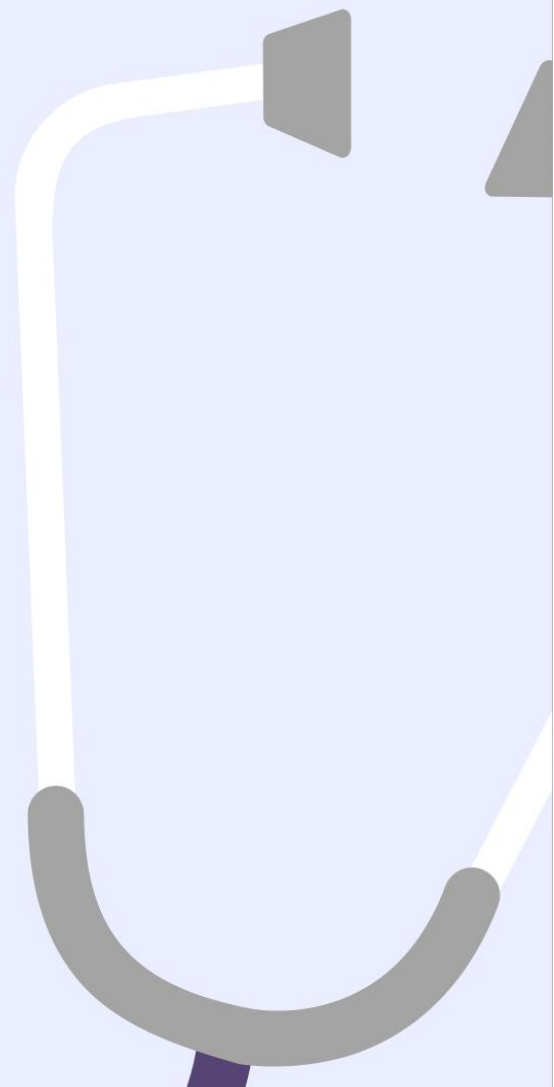
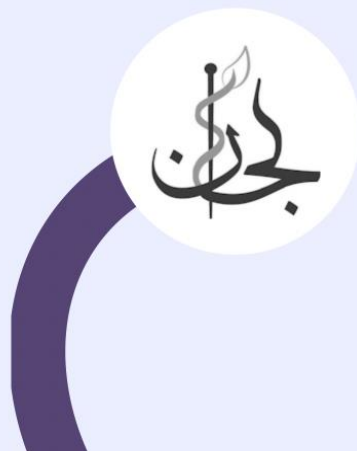
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جانب



6th year final exam - 2018

1. True about Dominant Right coronary artery:

answer : gives PDA branch and supplies AV node

2. requires immediate intervention?

answer : transposition of great vessel

3. Fatal condition?

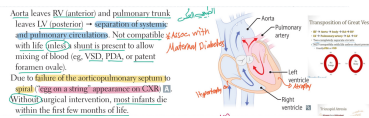
answer : left coronary from pulmonary

4. PDA dependent heart defect?

answer : PGE1

- Dominance:
- Right-dominant circulation (most common) = PDA arises from RCA
 - Left-dominant circulation = PDA arises from LCX
 - Codominant circulation = PDA arises from both LCX and RCA

Transposition of great arteries



- NSAIDs (eg. indomethacin, ibuprofen) or acetaminophen help close the patent ductus arteriosus -> ligamentum arteriosum (remnant of ductus arteriosus). Endomethacin ends the PDA.
- Prostaglandins E₁ and E₂ keep PDA open.

explanation :

Patent ductus arteriosus (PDA) is a condition where the opening between the two major blood vessels leading from the heart fail to close after birth. PGE1 is a substance produced by the ductus that keeps it open.

5. Which of the following is the most appropriate statement regarding chest trauma:

- 25% of trauma mortalities are related to the chest.
- most patients with chest trauma will end up needing a thoracotomy.
- tracheal and bronchial trauma are repaired via a median sternotomy.
- continuous bleeding of 50 ml/hr requires a thoracotomy.

INTRODUCTION

Rapid accumulation of greater than 1500 ml or 1/3rd blood volume in Pleural cavity.
A massive hemothorax is defined as blood drainage ≥1500 ml after closed thoracotomy and continuous bleeding at 200 ml/hour for at least 3 to 4 hours.

answer : C (maybe)

6. A patient undergoes left pneumonectomy for lung ca. 5 days after the surgery, he has fever and cough with copious amount of sputum. CXR showed air fluid level in the post-pneumonectomy space. What is the best next step?

- Pleural fluid analysis and culture
- Chest drainage
- Thoracotomy
- Sputum cultures and start antibiotics

Differential diagnosis

- Differential diagnosis of cavity lung lesions, such as:
 - Pleural empyema with air-fluid level
 - Bullae or cysts with air-fluid level
 - Pulmonary infarction
 - Subabscess
 - Aspergilloma
 - Cavitating pulmonary metastasis
- See also "Differential diagnosis of pulmonary nodules"

As lung abscesses due to aspiration appear in characteristic locations, imaging can help to differentiate them from other cavity lesions. For example, tuberculosis more commonly affects the lung apices or apical segments of the lower lobes; embolic pulmonary infarcts typically appear as multiple, diffuse lesions.²⁰

answer : A

Air-fluid level

A radiologically visible interface between a collection of fluid and the air above within a hollow structure (e.g., a segment of bowel or a cavity lung lesion). Can appear as a flat line or a crescent depending on the viscosity of the fluid. Visible on erect and decubitus radiographs and axial CT scans. Causes include bowel obstruction and several types of lung lesion.

Explanation :

A : bcz After CXR we have to determine the cause of air fluid level to guide us for further management , B : is necessary but not the first step . C : invasive procedure (not preferable after major sugery) D : fluid analysis before start abx.

7. All are causes of persistent decrease in CO after cardiac surgery except:

- cardiogenic* a) poor myocardial function
 - obstructive* b) cardiac tamponade
 - hypovolemic* c) Hypovolemia
- ↳ shock*

Hypovolumic

- d) Bleeding
- e) Alkalosis

answer : E

EXPLANATION:

Hypovolemia and bleeding causes low CO by decreasing preload . cardiac tamponade is a decreased in diastolic filling, which leads to a decreased cardiac output. Poor cardiac function means decrease contractility then decrease CO .

8. acute lower limb ischemia (The embolus was in the common femoral artery and the patient presented with weak sensation of 5 hour-duration.) best management:

- a) IV heparin
- b) Embolectomy
- c) Aorto-femoral bypass
- d) femero-femoral bypass

SUMMARY Management of a limb threatened by acute ischemia

- Make cardiorespiratory assessment of the patient
- Provide O2 therapy and BP optimisation as necessary
- Provide analgesia
- Arrange blood tests (including clotting and cross match),
- ECG and chest X-ray
- Keep nil by mouth and give i.v. fluids

SUMMARY Management of a limb threatened by acute ischemia

- Start i.v. heparin – 5000 IU stat and 1000 IU/hour
- Arrange imaging – duplex ultrasound, arteriogram or on-table arteriogram
- Obtain consent
- Consider Intra-Arterial Thrombolysis
- Perform Embolectomy/arterial reconstruction and consider fasciotomies

answer : B

Explanation :

First choice of treatment is embolectomy then use IV heparin as adjunct to prevent another clot formation . bypass used in case of fully blocked artery not in case on embolus

9. PVD ??

- a) most have intermittent claudication (Asymptomatic)
- b) asx have same survival rate as general population x (78%)
- c) rest pain and intermittent claudication have different natural hx
- d) Normal ABI excludes significant disease

The Facts:

- The prevalence: >55 years is 10%-25%
- 70%-80% of affected individuals are asymptomatic

Rest pain

- Worst at night, lying, relieved by putting the leg in dependent site
- Coldness
- Numbness
- Parasthesia
- Color change
- Differentiated from night cramps

Intermittent claudication

- ABI 0.5-0.9
- Claudication distance
- Calf is the most common

What does the ABI mean?

ABI	Clinical Correlation
>0.9	Normal Limb
0.9-0.7	Intermittent Claudication
<0.4	Rest Pain
<0.15	Gangrene

CAUTION:
Patient's with Diabetes + Renal Failure, they have calcified arteries which can falsely elevate their ABI.

answer : C

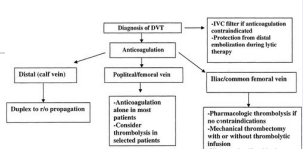
10. Wrong about DVT:

- a) pt needs admission before starting the treatment
- b) pt may have PE without any symptoms
- c) It's important to assess whether it was provoked or Unprovoked
- d) Level of DVT affects your management
- e) You should not delay treatment till you do the u/s

answer : A + E

Explanation :

We can discharge pt to home on NOAC if DVT is confirmed . but when PE is confirmed we have to admit pt. in addition to that we have to do images before start treatment لأنه العلاج يختلف حسب شو يتطلع معي بالصورة



Admission Criteria for Acute VTE

DVTs (few need to be admitted*)

- Very high bleeding risk
- Severe renal dysfunction
- Patients with extensive iliofemoral DVT who are considered for catheter thrombolysis

PE (many can be treated as outpatients*)

- Hemodynamically unstable
- Requires O2 or parenteral narcotics
- Very high bleeding risk
- Severe renal dysfunction
- Massive PE requiring catheter thrombolysis

*If outpatient low molecular weight heparin can be arranged

VTE Toolkit

الجواب A

	PVR	RA	LA
In Utero	↑	↑	↓
Birth	↓	↓	↑

Handwritten notes:
 - Above PVR: pulmonary vascular resistance
 - Next to RA ↑: blood flow
 - Next to RA ↓: blood
 - Next to LA ↑: blood

11. What is true about fetal circulation?:

Handwritten: خلال اولين 24 ساعات بعد الولادة

- a) Functional closure of foramen ovale occurs within 24hrs
- b) Ductus arteriosus continues to shunt blood from Rt to Lt before birth Lt → Rt after birth
- c) Umbilical artery is a branch of common iliac artery (it's a branch of internal iliac) ✗
- d) the pulmonary artery resistance decreases after closure of the ductus arteriosus**
- e) Low O₂ tension is associated with closure of PDA ↑O₂ & ↓PGE₂

answer : D

12. A patient presenting with signs and sx mostly consistent with acute mesenteric ischemia. ABGs: ↓pH 7.32 ↓HCO₃ 14, pCO₂ What is the acid-base disorder?

answer : Metabolic acidosis with respiratory compensation في نقص بمعطيات السؤال

13. There was a question about lower limb amputation but I can't remember the details.

answer : start rehabilitation as soon as possible ✓

4th year final exam - 2018

1. Most common site of venous ulcer :

Answer : lower third of the leg and ankle ✓

2. Exercise effect in PAD :

answer : improves walking distance ✓

3. Not used for AAA repair :

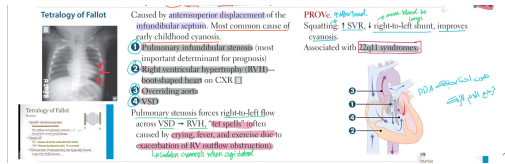
answer : Axillo-bifemoral bypass ✓

4. Cause of early cyanosis :

answer : Transposition of the great vessels ✓ *RT. → Lt. shunt*

5. Not in TOF :

answer : ASD



6. Indication for CABG :

answer : Patient with unstable angina, three-vessel disease, EF = 35 %

7. MI with occlusion in LCX artery , pt has left dominant circulation , which parts will be infarcted :

answer : Left lateral ventricle and posterior interventricular septum *↳ post. descend. Art.*

Indications for open-heart surgery

- Coronary Artery Bypass Grafting (CABG)
 - Triple vessel disease
 - LF main coronary artery disease
 - Unstable angina, failed Mx therapy
 - Complications of PTCA
 - Life threatening complications of MI
 - Anomalies of Coronary arteries.

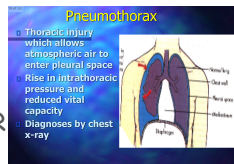


8. False about lymphadema :

answer : lymphedema praecox is primary and lymphedema tarda is secondary (both of them are primary) *General ✓*

9. False about pneumothorax:

answer : tension pneumothorax is diagnosed by CXR



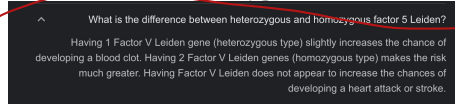
General principles [8]

- The diagnosis of pneumothorax is usually confirmed by chest x-ray.
- Ultrasound is becoming an increasingly accepted modality for identifying pneumothorax and is part of the eFAST [958]
- CT can provide information about the underlying cause (e.g., bullae in spontaneous pneumothorax).
- Tension pneumothorax is primarily a **clinical diagnosis** and prolonged diagnostic studies should be avoided in favor of **initiating immediate treatment**.

In cases of tension pneumothorax, immediate decompression is a priority and should not be delayed by imaging.

10. Which of the following is associated with the highest relative risk of developing DVT :

answer : Antiphospholipid syndrome (The other choice were heterozygous factor V leiden, prothrombin mutations, heterozygotes protein C deficiency) *AD ✓*



11. Question about pancost tumor:

answer : 2/3 of the cases are associated with squamous cell carcinoma *pancoast is a non small cell LC, particularly squamous cell CA*

12. Which of the following is false intermittent claudication :

answer : becomes better at Night *α True*

5 |

Rest pain

- Worst at night, lying, relieved by putting the leg in dependent site
- Coldness
- Numbness
- Paresthesia
- Color change
- Differentiated from night cramps

Peripheral arterial disease

Intermittent claudication

- Seen in approx. 10-35% of patients
- Pain, cramps, or paresthesia distal to arterial occlusion
- Femoropopliteal disease** (most common): typically causes calf claudication
- Aortoiliac disease** (aortic syndrome)
 - Level of the aortic bifurcation or bilateral occlusion of the iliac arteries
 - Triad of bilateral buttock, hip, or thigh claudication, erectile dysfunction, and absent/diminished femoral pulses
- Thiobifurcal disease**: typically causes foot claudication
- Worsens spontaneously
- Completely relieved by rest or lowering affected limbs
- Reproducible on asking the patient to walk the same distance at which symptoms typically occur

Intermittent claudication

- ABI: 0.5-0.9
- Claudication distance
- Calf is the most common

4th year final exam - 2016

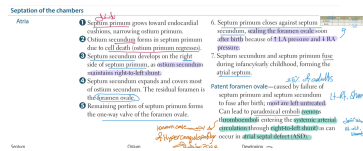
1. Most common congenital heart defect:

answer : Membranous VSD ✓

Ventricular septal defect—**most common** congenital cardiac anomaly, usually occurs in membranous septum. *membranous > muscular*

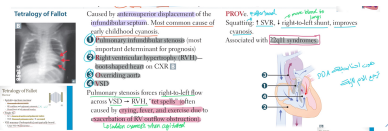
2. Closure of foramen primum by union of: -

answer : Septum primum with AV cushions ✓



3. Wrong about CHD:

- a) In TOF: VSD and RVH
- b) In TOF: pulmonary artery stenosis and overriding aorta.
- c) TOF is due to aorticopulmonary membrane defect*?? (It is due to anterior and superior deviation of the outlet septum.)



answer : **C**

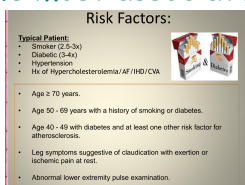
4. Most common cause of death at site of accident is:

- a) Vascular injury
- b) Thoracic injury
- c) CNS injury

answer : **A**

5. Which factor is the most associated with symptomatic PVD:

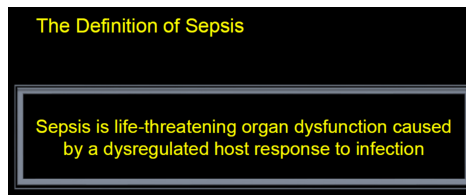
- a) HTN
- b) DM



answer : **B**

6. Sepsis with organ failure and persistent hypotension is the definition of:

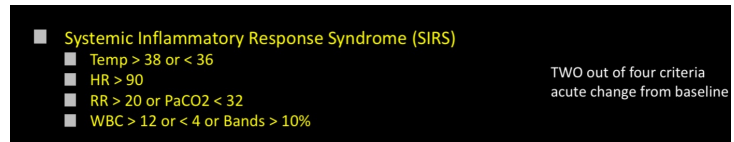
- a) Septic shock
- b) SIRS
- c) Severe sepsis
- d) MODS



answer : **A**

7. Not part of the SIRS criteria:

- a) Temperature < 36
- b) HR > 90
- c) WBC > 12000 or < 4000
- d) RR > 8 or PaCO2 > 23mmHg
- e) Cell bands > 10%



answer : **D**




	Class of haemorrhagic shock			
	I	II	III	IV
Blood loss (mL)	Up to 750	750-1500	1500-2000	> 2000
Blood loss (% blood volume)	Up to 15	15-30	30-40	> 40
Pulse rate (per minute)	< 100	100-120	120-140	> 140
Blood pressure	Normal	Normal	Decreased	Decreased
Pulse pressure (mm Hg)	Normal or increased	Decreased	Decreased	Decreased
Respiratory rate (per minute)	14-20	20-30	30-40	> 35
Urine output (mL/hour)	> 30	20-30	5-15	Negligible
Central nervous system/mental status	Slightly anxious	Mildly anxious	Anxious, confused	Confused, lethargic

8. Patient lost 1700 ml of blood:

answer : Class III shock (lost 30 - 40 % of blood volume)

9. Pt has inappropriate words, open eyes in response to painful stimulus, flex limbs in response to painful stimulus. Find his GCS: 3 2 4

- a) 9
- b) 8
- c) 7

Behaviour	Response
	4. Spontaneously 3. To speech 2. To pain 1. No response
	5. Oriented to time, person and place 4. Confused 3. Inappropriate words 2. Incomprehensible sounds 1. No response
	6. Obeys command 5. Moves to localised pain 4. Flex to withdraw from pain 3. Abnormal flexion 2. Abnormal extension 1. No response

answer : A

10. P50 for a male with normal [Hb]:

- a) 15 mmHg
- b) 25 mmgh
- c) 35 mmgh
- d) 40 mmgh

answer : B

11. Wrong about compartment syndrome :

- a) Fasciotomy of all affected compartments
- b) Absent pulse is an early sign

answer : B

Explanation :

Absent of pulse : late sign

12. Female with DVT. Wrong about treatment:

- a) admission
- b) she may have PE without signs
- c) level of DVT determination would affect the management
- d) need to determine whether it is provoked or unprovoked
- e) good treatment reduce recurrence and post thrombotic syndrome

سکر سائیکو

answer : A

13. wrong about critical limb ischemia

- a) mostly are revascularized
- b) worse prognosis than intermittent claudication
- c) amputation is occasionally the only choice
- d) Majority ends with amputation, or become severely diseased in 12 months follow up

Critical limb ischemia (CLI) [3]

- Indicative of limb-threatening arterial occlusion
- Characterized by the presence of any one of the following:
 - Rest pain lasting \geq 2 weeks
 - Nonhealing ulcers
 - Tissue loss (gangrene)

Amputation [10][7]

- Wet gangrene, unsalvageable limb: Urgent amputation may be required, especially in patients with sepsis.
- Dry gangrene: Consult vascular surgery to evaluate for revascularization prior to amputation.

answer : D

6th year final exam - 2015 & others

1. Which of the following has the greatest impact on the physiology of tetralogy of Fallot?

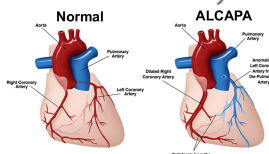
- a) The size of the ASD.
- b) The size of the VSD.
- c) The degree of pulmonary stenosis.**
- d) The amount of aortic overriding.

answer : C

2. The congenital coronary lesion most likely to cause death in infancy is:

- a) Coronary artery fistula. *عادي*
- b) Origin of the left coronary artery from the pulmonary artery.**
- c) Origin of the right coronary artery from the pulmonary artery.
- d) Congenital coronary aneurysm.. *عادي*

*Left coronary is a major artery > RCA
ALCAPA syndrome*

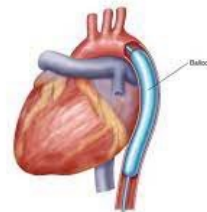


answer : B

3. Which of the following are the most frequent complications of intra-aortic balloon counter pulsation?

- a) Stroke.
- b) Limb ischemia.**
- c) Arrhythmias.
- d) Aortic thrombosis

What is Intra-Aortic Balloon Counterpulsation (IABC)?



answer : B

4. . The atrial septal defect (ASD) most commonly associated with partial anomalous pulmonary venous return (PAPVR) is:

- a) Sinus venosus defect.
- b) Ostium primum defect.
- c) Complete atrioventricular (AV) canal defect.
- d) Coronary sinus defect.

Atrial septal defect
 Defect in **interatrial septum** (E); **wide, fixed split S2**. **Distal secundum defects most common** and usually **isolated finding; ostium primum defects rarer** and usually **occur with other cardiac anomalies**. Symptoms range from none to HF. Distinct from patent foramen ovale, which is due to failed fusion.



O₂ saturation ↑ in RA, RV, and pulmonary artery. May lead to **paradoxical emboli** (systemic venous emboli use ASD to bypass lungs and become systemic arterial emboli). Associated with **Down syndrome** → **primum type**.
 25% of **admix**
 Patent foramen ovale—caused by failure of septum primum and septum secundum to fuse after birth; **most are left untreated**.
 Can lead to **paradoxical emboli (venous thromboemboli entering the systemic arterial circulation through right-to-left shunt)** as can occur in **atrial septal defect (ASD)**.
 by

answer : A

5. . A 55-year-old woman gives a history of **tiredness, aching, and a feeling of heaviness in the left lower leg for the past 3 months**. These symptoms are **relieved by leg elevation**. She is also **awakened frequently by calf and foot cramping, which is relieved by leg elevation, walking, or massage**. On physical examination there are **superficial varicosities, nonpitting edema, and a slightly painful, 2 cm. diameter superficial ulcer 5 cm. above and behind the left medial malleolus**. What is the most appropriate diagnosis?

- a) Isolated symptomatic varicose veins.
- b) Superficial lymphatic obstruction.
- c) Deep venous insufficiency
- d) Arterial insufficiency
- e) Incompetent perforating veins

Stasis ulcers tend to occur at the sites of incompetent perforators, **the most common being above the medial malleolus, over Cockett's perforator**.

The wound usually is shallow, with irregular margins and pigmented surrounding skin.

answer : C

Alba = white
 6. phlegmasia alba dolens, false :

- a) require treatment with LMWH ✓
- b) absent distal pulses ✓
- c) limb is blue in color

صحن بيض
 التورم

Phlegmasia cerulea dolens

- **Definition:** a severe form of phlebothrombosis characterized by obstruction of all veins of one extremity, with subsequent restriction of arterial flow, associated with high mortality
- **Symptoms**
 - Severe swelling, edema, and pain
 - Coldness, cyanosis, and **pulselessness**
- **Treatment**
 - **Emergency surgery:** venous thrombectomy, fasciotomy
 - Fibrinolysis if surgery fails
 - Amputation as last resort
- **Complications:** shock, gangrene, acute renal failure (due to rhabdomyolysis)

Phlegmasia alba dolens

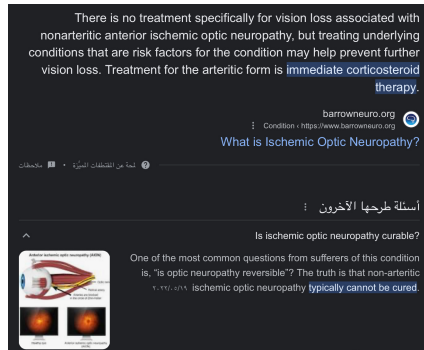
A rare condition in which a complete obstruction of venous drainage from the limb results in significant fluid sequestration, edema (due to increased capillary static pressure), and white coloring ("alba"). The edema precipitates phlegmasia cerulea dolens and compartment syndrome, which in turn leads to arterial and impending critical limb ischemia.

answer : C

<ul style="list-style-type: none"> • Phlegmasia Alba Dolens • known as milk leg or white leg • deep vein thrombosis that progresses to total occlusion of the deep venous system. • sudden (acute) process. • The leg, then, must rely on the superficial venous system for drainage 	<ul style="list-style-type: none"> • Phlegmasia Cerulea Dolens • painful blue edema, • occlusion of the superficial venous system, thereby preventing all venous outflow from the extremity • Sudden occurrence - edematous cyanotic painful leg. • May result in gangrene and high risk for massive pulmonary embolism
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7. . Revascularization surgery is indicated in all of the following cases except:

- a) Claudication
- b) ischemic neuropathy**
- c) rest pain
- d) ulcer
- e) gangrene



answer : B

8. Which is most lethal coronary anomaly: - left main arising from pulmonary artery (alkapa) *سور*

9. Most prognostic in TOF: - degree of pulmonary stenosis ✓

10. Most likely ASD type with partial anomalous pulmonary venous return:

- a) coronary sinus venous**
- b) septum secundum
- c) septum premium
- d) AV canal malformation



answer : A

11. Ejection fraction is defined as: - Stroke volume ratio to end diastolic volume

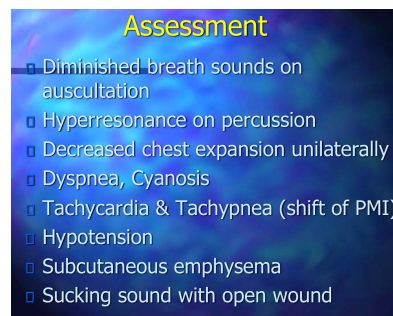
12. Most likely sign indicating pneumothorax:

- a) weak lung sounds**
- b) dull percussion note ✗ *Hyper-resonant*
- c) shift of mediastinum to same side ✗
- d) crepitations ✗

Ejection fraction
Normal = 55%

$$EF = \frac{SV}{EDV} = \frac{EDV - ESV}{EDV}$$

EF is an index of ventricular contractility (4 in systolic HF; usually normal in diastolic HF).



answer: A

13. Most common complication with intra aortic balloon pump:

- a) Arrhythmias
- b) limb ischemia**
- c) hematoma at site of insertion



- d) stroke
- e) aortic dissection

What are the neurological complications of thoracic endovascular aortic repair?
 One of the most severe complications after TEVAR is **ischemic stroke and spinal cord ischemia (SCI)** resulting in severe disability. These complications can be fatal up to 30% of cases, so it is very important to define risk factors associated with the occurrence of such events.

Paraplegia is a rare but devastating complication of thoracic/thoraco-abdominal aortic aneurysm repair. The incidence after repair of infrarenal aneurysms is lower, at 1.4-2.0% for emergency cases and 0.1-0.2% for elective cases.

answer : B

14. Most feared complication after thoracic aortic repair surgery is: - paraplegia الجواب

15. "definitive" to show transection of (forgot the vessel) after trauma?

- a) CT
- b) CXR
- c) aortogram/angiogram

Imaging study
 CT Angio

- * Ct angiograph
- faster, less expensive and less invasive
- 90-100 % sensitivity and 98% - 100 % specificity
- * diagnostic study of choice
- *Limitations:
- difficulty differentiating spasm from occlusion
- artifact from high attenuation structures like bullet
- fragments or other foreign matter

answer : A

16. Popliteal artery aneurysm, true:

- a) 70% ^{50%} bilateral
- b) most common peripheral aneurysm?
- c) likely to present with compression on near nerve and vessels
- d) most commonly present with pregnancy
- e) if pt have abdominal aortic aneurysm he has 50% risk of having popliteal aneurysm

answer : B

17. Lymphedema, false:

- a) filariasis is the most common cause of lymph edema worldwide ✓
- b) lymphedema praecox is most common primary lymphedema ✓
- c) best viewed by lymphogram ✓
- d) weight loss can help to improve lymphedema in obese pt ✓
- e) all cases must be managed surgically

answer : E

EXPLANATION :

We can treat lymphedema conservatively . weight loss help in decrease pressure on lymphatic drainage and lymphedema will improved .

18. ABP complication: Lower limb ischemia ✓

19. the most significant sequelae in patients diagnosed with DVT: - Pulmonary embolism ✓

20. doesn't improve claudication:

- a) Exercise
- b) Smoking cessation
- c) Aspirin
- d) Bypass
- e) Angioplasty

Lifestyle Modification and Secondary Prevention

- cessation of smoking is by far the **single most important factor** determining the outcome of patients with PAD
- Oral hypoglycemic therapies are usually required to achieve the (HbA1C) goal of **<7% when baseline serum glucose is in the range of 140-180 mg/dl.**
- Insulin therapy is usually required to achieve HbA1C goals when fasting glucose is **>180 mg/dl**

Conclusions. Treatment with aspirin did not show a difference in initial claudication distance or absolute claudication distance improvements compared with clopidogrel after a 3-month walking rehabilitation program.

Effect of Aspirin Versus Clopidogrel on Walking Exercise ...

أسئلة طرحها الآخرون

Is aspirin good for claudication?

Editor—In their evidence based guidelines Eccles et al conclude that **aspirin is unlikely to have a beneficial effect on the incidence of major cardiovascular events in patients with intermittent claudication.**

- maintaining an LDL level **<100 mg/dl (<2.6 mmol/L)** is strongly recommended.
- lowering total cholesterol and LDL by 25% with statin therapy reduces cvs mortality and morbidity in PAD patients by 21% irrespective of age, sex, or baseline cholesterol level. (Heart Protection Study)
- The use of (ACE) inhibitors may confer more protection against cardiovascular events
- safety using of beta-blocker PAD patients, except in the most severely affected patients with CLI (meta-analysis of randomized, controlled trials)

Antithrombotic Therapy

- lifelong aspirin therapy (75-150 mg/d) is recommended. (meta-analysis of 5706 patients with PAD)
- Clopidogrel may be **superior** to aspirin in reducing serious vascular events in PAD patients. (CAPRIE trial)
- oral anticoagulation improves graft patency in **venous conduit**, whereas aspirin gives better results for **non venous, prosthetic grafts** (Dutch multicenter randomized trial)
- antiplatelet agents still remain the recommended agent in the majority of patients undergoing (uncomplicated) **infrainguinal** vascular reconstructive surgery. **Exceptions** are patients with femoro-distal bypass procedures, who may be at increased risk for graft thrombosis.

What relieves claudication?

Treatment for intermittent claudication may include one or more of the following: **Smoking cessation, Exercise, preferably a walking program, Treatment of related medical problems, such as high cholesterol, high blood pressure, and/or high blood sugar levels (glucose intolerance or type 2 diabetes).**

answer : C

21. -What supports the use of synthetic valve over biological valve:

- a) A patient with thrombophilia
- b) 30 year old female willing to get pregnant
- c) 70 year old co morbid male
- d) 30 year old healthy male

Valve types

How to choose a valve *very important*

Mechanical valve in patients < 65 years.

Tissue valves in patients > 65 years

Tissue valves in patients whose life expectancy is < 10 year

Tissue valve in patients who have problems which are likely to cause life threatening bleeding. *(Contraindication to warfarin)*

answer : D

22.-PDA all true except:

- a) Associated with maternal rubella
- b) Decreased murmur sound is a bad prognostic factor
- c) LV hypertrophy precedes RV hypertrophy
- d) Most cases closes spontaneously in the neonatal period
- e) One third die at age of 40 if not corrected

Patent ductus arteriosus

In fetal period, shunt is **right to left (normal)**. In neonatal period, pulmonary vascular resistance → shunt becomes **left to right** → progressive RVH and/or LVH and HF. Associated with a **continuous, 'machinistic' murmur**. Patency is maintained by **PGC (Angiotensin) synthesis and low O2 tensions**. Uncorrected PDA can eventually result in late cyanosis in the **low extremities (differential cyanosis)**. *→ ↓ perfusion (lower) / ↑ perfusion (higher)*

PDA is normal in utero and normally closes only after birth, **associated with Congenital Rubella** & **↑ Pulc. pressure (↑ Diastole)**

answer : C

23. most common etiology of thoracic aortic aneurysm:

- a) HTN
- b) Atherosclerosis
- c) Cystic medial necrosis

The most common cause of a thoracic aortic aneurysm is **hardening of the arteries (atherosclerosis)**. This condition is more common in people with high cholesterol, long-term high blood pressure, or who smoke.

d) Marfan

answer : B

24. -all are true about mediastinal masses except:

- a) Thymoma is associated with muscle weakness usually
- b) Most common mediastinal masses are metastatic tumors
- c) Thymoma is a posterior mediastinal mass**

answer : C

Explanation :

Thymoma is a anterior mediastinal tumor .

25. most common pericardial tumor is:

- a) Metastatic bronchogenic cancer**
- b) Lymphoma
- c) mesothelioma

Mesothelioma is the most common primary malignant pericardial neoplasm. Other malignant tumors include a wide variety of sarcomas, lymphoma, and primitive neuroectodermal tumor. When present, signs and symptoms are generally nonspecific.

Metastatic tumors to the heart:

- The most frequent primaries are: carcinomas of lung and breast, melanomas, leukemias, and lymphomas.
- Metastases can reach heart and pericardium by:
 - Lymphatic extension (most carcinomas).
 - Hematogenous seeding (many tumors).
 - Direct contiguous extension (primary carcinoma of lung, breast, or esophagus).

answer : A

26. which of the following least likely to cause middle mediastinal mass:

- a) Neuroblastoma
- b) Lymphoma
- c) Thymoma
- d) Ganglioneuroblastoma**

Regionalization	
Anterior Mediastinum	> Teratoma, Thymus Ectopic Thyroid Adenopathy
Middle Mediastinum	> Adenopathy Bronchogenic Cysts Esophageal Duplication Cysts
Posterior Mediastinum	> Neurogenic Tumors Esophageal Duplication Cysts

DDx of Mediastinal Masses

Antero-superior mediastinum:

- Thymic tumors:
- Lymphomas:
- Germ cell tumors:
- Endocrine tumors:
- Mesenchymal tumors:

The middle mediastinum:

- Lymphomas.
- Cysts:
- Mesenchymal tumors.
- Tracheal tumors.
- Cardiac and pericardial tumors
- Vascular tumors:
- Lymphadenopathy:

The posterior mediastinum:

- Lymphomas
- Neurogenic tumors:
- Mesenchymal tumors
- Esophageal tumors and cysts
- Hiatal hernias.
- Thoracic duct cyst.
- Meningocele.

Anterior	Middle	Posterior
Thymic (Thymoma, Lymphoma, Teratoma, Cyst)	Bronchogenic Cysts Pericardial Cysts	Neurogenic Tumors Neurofibroma Neuroblastoma Pheochromocytoma
Lymphomas	Lymphomas Cysts	Neurofibroma Neuroblastoma Pheochromocytoma
Germ cell tumors (teratoma, endocrine neuroblastoma, etc.)	Esophageal Tumors Esophageal Duplication Cysts	Tracheal duplication (with diverticula)
Endocrine tumors (parathyroid adenoma, pheochromocytoma, paraganglioma, thyroid carcinoma)	Vascular Tumors	Vascular Malformations
Mesenchymal tumors (sarcoma, lipoma, fibroma, etc.)		
Vascular (hemangioma, arteriovenous malformation, aneurysm)		
Tracheal (chondroma, chondrosarcoma, carcinoma)		

Rememo. : it is same as pheochromocytoma

answer : D

27. true about claudication: The pain is reproducible and due to ischemia ✓

28. false about pneumothorax: tracheal deviation toward the affected side ✓

29. false about pneumothorax: collapsed neck veins ✓

30. after CVA elective surgery must be delayed to how long: 6 weeks ✓

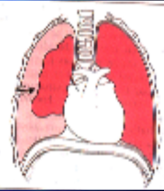

31. thoracotomy indication for hemothorax? ¹⁵⁰⁰1000cc and continues 200cc and didn't decrease

Hemothorax

- Simple = blood loss < 1500ml into thoracic cavity
- Massive = > 1500 ml
- Due to blunt trauma or penetrating injury
- R/T Pulmonary contusions or lacerations or rib fractures

Interventions

- Chest tubes to evacuate blood
- Careful monitoring of drainage
- Possible thoracotomy if > 1500 ml or persistent bleeding 200ml over 3 hrs.
- Frequent vital signs, I & O
- Evaluate Pt response
- IV fluids, blood as ordered or reinfusion of drainage after filtering

32. Acute limb ischemia, mx? Embolectomy ✓

33. venous ulcer, no signs of infection, mgt is ??? Compression dressing ✓

34. Long term complication of DVT ???.. Stasis ulcer

What is a stasis ulcer?
A venous ulcer, also known as venous stasis ulcer, is a wound that takes longer than usual to heal. It's due to vein and blood flow issues and often occurs on your legs near your ankle.

35. most important investigation for PAD presented with intermittent claudication is:

CTA CT Angiography

36. regarding lung cancer all are true except:

- a) Concomitant radiotherapy and chemotherapy are the main treatment for stage 3b and 4
- b) Surgery offers the best hope for cure especially in early stages
- c) Overall 5-year survival is 65%
- d) In small cell type chemotherapy is the main stay
- e) Neoadjuvant chemotherapy is helpful in advanced cases

Overall 5-year survival rates: 14%-15%

Stage III A: T3 N1 M0
T1, T2 N2 M0

- T3N1M0: N1
- Surgery alone in operable patients without bulky lymphadenopathy.
 - Adjuvant chemotherapy.
 - Chemo radiotherapy for patients who are not suitable for surgery.
- T1, T2 N2M0: N2
- Preoperative chemotherapy is standard for resectable stage IIIA. In randomized trials, the survival of stage IIIA patients was significantly better with induction chemotherapy plus surgical resection than with resection alone.
 - Radiation therapy alone, for patients who are not suitable for neoadjuvant chemotherapy plus surgery.
 - Platinum-based chemotherapy and thoracic radiotherapy is the standard treatment for medically inoperable stage IIIA NSCLC.

- small-cell carcinoma:
- accounts for 20% of all lung cancers
- aggressive tumor
- arise in cells derived from the embryonic neural cells
- usually occur near the hilum (centrally located)
- almost exclusive to smokers
- rarely amenable to surgery because of wide dissemination by the time of diagnosis
- 5 year survival less than 10%

More than 70% of patients present with advanced disease (stages IIIB or IV) at diagnosis that is considered to be incurable

Median survival is approx. 4-5 months

Chemotherapy extends life

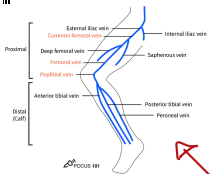
QoL is an important consideration in determining value of treatment

answer : C

Explanation :

Over all 5 year survival is 14-15%

37. which of the following is true regarding venous circulation:



- a) Muscle contraction play no role in venous return ✗
- b) The common iliac veins has valves →
- c) The greater saphenous vein joins the femoral vein to become the common femoral vein
- d) In healthy person, venous pressure increases with walking
- e) The perforating veins in the leg directs the flow from the deep to superficial system

Where are the venous valves?
This study has demonstrated that in the studies included, venous valves are consistently located in specific sites in the common femoral, femoral and popliteal veins of the leg.

Superficial → Deep

answer : D

What are the perforating veins?
Perforator veins (PV) connect the superficial veins of the leg with the deep veins, 'perforating' the deep fascia which separates the deep (muscle) compartment from the superficial compartment of the leg. There are approximately 150 PV in each leg.

Perforator veins
The lower limb veins that connect the superficial venous system with the deep venous system by piercing through the deep fascia. Contain valves that ensure unidirectional flow of blood from the superficial to the deep system. Valvular incompetence of perforator veins can result in varicose veins and chronic venous insufficiency.

38.-If appropriately utilized, supervised exercise programs for patients with peripheral vascular disease can help achieve which of the following?

- a) Gradual improvement in ankle brachial index.
- b) Improve collateral circulation.
- c) Increased walking distance. ✓ JSO
- d) Clinical benefit in patients with claudication and rest pain but not in patients presenting with tissue loss.

e) Reduces the need for long term antiplatelet therapy.

answer : C

39. A 68 year old man sustains a myocardial infarct resulting from thrombotic occlusion at the origin of the left circumflex artery. Cardiac catheterization demonstrates that the patient has a left dominant coronary circulation. In which of the following areas of the heart has ischemic necrosis most likely occurred?

- a) Apex of left ventricle and anterior portion of septum
- b) Lateral left ventricular wall and posterior portion of septum
- c) Lateral wall of the left ventricle only
- d) Posterior portion of the septum only
- e) Right ventricular wall

answer : B

40. Pancoast tumors are located in the apex of the lung and involve through tissue contiguity the apical chest wall and/or the structures of the thoracic inlet. Which one of the following statements regarding Pancoast tumor is correct?

- a) Pancoast tumor account for 25% of all bronchogenic carcinomas
- b) Squamous cell carcinomas account for two third of all pancoast tumours
- c) Pancoast tumours are by definition T2 tumors
- d) Induction chemo-radiotherapy is the standard of care for any potentially resectable Pancoast tumor
- e) Surgery for pancoast tumour is associated with 50% mortality rate

answer : B

Explanation :

A : false (3-5 %) , C: T3 not T2 , D and E : pancoast tumor is one of NSCLC . We start treating SCLC By chemotherapy induction since it was very responsive to chemo . In addition to that , in some advanced stages we can initiate treating by combination of chemo and radiotherapy . While NSCLC should be treated by resection (surgery) and sometimes adjuvant chemotherapy .

41. The following patient is best treated with coronary artery bypass grafting (CABG):

- a) A 60-year-old man with class II angina, 75% proximal right coronary artery lesion, and normal ventricular function.
- b) A 60-year-old man with unstable angina, three-vessel disease, and an ejection fraction of 35%.

- c) A 60-year-old non-diabetic man with class III angina symptoms and focal discrete lesions in the midright coronary artery and mid-left circumflex artery.
- d) A 60-year-old man with diabetes, class IV angina, 75% mid left anterior descending and 75% proximal right coronary artery obstruction, and left ventricular ejection fraction of 60%.
- e) A 60 year old man, non-diabetic, with isolated 40% mid left main stem disease

answer : B

42.Regarding Pneumothorax all are true EXCEPT:

- a) Closed pneumothorax is relatively common and may not be Clinically significant
- b) In tension pneumothorax air can only escape via the bronchial tree
- c) In tension pneumothorax there may be tracheal deviation towards the contralateral lung
- d) There may be an increase of 40 mmHg in intrapleural pressure on the affected side
- e) Tension pneumothorax is usually diagnosed by CXR

150

answer : E

43.Which of the following has the highest relative risk of developing Venous Thromboembolism:

- a) Oral contraceptive use.
- b) Heterozygous carrier of FVL.
- c) Antiphospholipid syndrome.
- d) Prothrombin gene mutation.
- e) Heterozygous protein C deficiency

150

Answer : C

44.All of the following are true regarding lymphedema EXCEPT:

- a) Lymphedema praecox denotes primary lymphedema, while secondary lymphedema is also termed lymphedema tarda.
- b) Primary lymphedema has a marked female predominance.
- c) The most common world-wide cause of secondary lymphedema is filariasis.
- d) Lymphoscintigraphy is a reliable diagnostic tool for lymphedema.
- e) Methods of treatment include manual lymphatic drainage, compression devices, and surgery.

answer : A

45. Which of the following does not describe intermittent claudication?

- a) Is elicited by reproducible amount of exercise.
- b) Abates promptly with rest.
- c) Is often worse at night.
- d) May be an indication for bypass surgery.
- e) May improve with time

answer : C

46. Tetralogy of Fallot consists of all of the following features EXCEPT:

- a) ASD.
- b) VSD.
- c) Dextroposition of the aorta.
- d) Pulmonary stenosis.
- e) Right ventricular hypertrophy

answer : A

اللهم علمنا ما ينفعنا، وانفعنا بما علمتنا، وزدنا علما