

# Medicine

Final exam 021



By

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## 021 MEDICINE FINAL EXAM

BY LEJAN AL DOFAAT

- 1) A patient came with COPD exacerbation, before discharge he asked you about something he has which determine probability of future exacerbations, one of the following is the answer? (Respiratory)
- A) Smoking
  - B) History of Past exacerbations
  - C) FEV1
  - D) Family history of COPD
  - E) Age

**Answer is A. History of past exacerbations**

**Previous exacerbations is the strongest indicator of future ones**

**Smoking is a risk factor for exacerbations but does not provide value in predicting the severity of them**

- 2) Ann Arbor cancer staging depends on : (hematology)
- A) Lymph nodes extension related to diaphragm
  - B) Histological grading system

**Answer is A. lymph nodes extension related to diaphragm**

### Staging: Ann Arbor

- I. 1 lymph node region or structure
- II. >1 lymph node region or structure, same side of diaphragm
- III. Both sides of diaphragm
- IV. Extranodal sites diffuse, beyond "E" designation

- 3) Which of the following is not a parameter of Child Pugh score : (gi)
- A) INR
  - B) Creatinine
  - C) Bilirubin
  - D) Ascites

## E) Albumin

Answer is B. Creatinine

Factor	Units	1	2	3
Serum bilirubin	μmol/L mg/dL	<34 <2.0	34-51 2.0-3.0	>51 >3.0
Serum albumin	g/L g/dl	>35 >3.5	30-35 3.0-3.5	<30 <3.0
Prothrombin time	Seconds prolonged INR	<4 <1.7	4-6 1.7-2.3	>6 >2.3
Ascites		None	Easily controlled	Poorly controlled
Hepatic encephalopathy		None	Minimal	Advanced

4) Chylothorax, what is probably the cause ? (ID)

- A) Bacterial infection
- B) Lymphoma
- C) Lung cancer
- D) Breast cancer

Answer is B. Lymphoma

### Explanation:

**Chylothorax** is the accumulation of **chyle** (a milky lymphatic fluid rich in triglycerides) in the pleural space. It typically results from **disruption or obstruction of the thoracic duct**.

### Most common causes:

- **Malignancy** is the most common non-traumatic cause.

5) Effusion sample, dominant lymphocytes, what is most likely to be the cause ?

(Respiratory)

- A) Malignant effusion
- B) Acute Bacterial infection
- C) Tuberculosis

Answer is C. Tuberculosis

#### Exudative Pleural effusion

- Malignant pleural effusion - Lung, breast, lymphoma
- Diagnostic yield of pleural fluid cytology = 66% ( subsequent taps)
- **Tuberculous pleural effusion**
  - Lymphocyte/neutrophil ratio  $\geq 0.75$  (>60% lymphocytes)
  - Meta-analysis = yield of adenosine deaminase (ADA) to have sensitivity 92%; specificity 90% -
  - ADA-2 isoform improves yield; stimulated in presence of live organisms
- Pleural Infection – parapneumonic effusions & empyema

6) A 20 years old female, skin thickness on the arms up to the level of the elbow with involvement of anterior chest ,tight skin, dyspnea, positiveANA, scl-70, what is the most common cause of death in this patient' case ? (Rheumatology)

- A) Pulmonary hypertension
- B) Renal failure
- C) Lung fibrosis
- D) Heart Failure

Answer is C. Lung fibrosis

Involvement of anterior chest, positive scl-70 indicates diffuse scleroderma, as you can see in th following slide and according to Dr. Ola's notes lung fibrosis (interstitial lung disease) is more common with diffuse scleroderma.

- ❑ **Interstitial lung disease(ILD)**
- ▶ Cause restrictive lung disease
- ▶ Decrease in forced vital capacity and DLCO
- ▶ More common in diffuse SSc
- ▶ More common in positive SCL 70
- ▶ More common in Male and African American

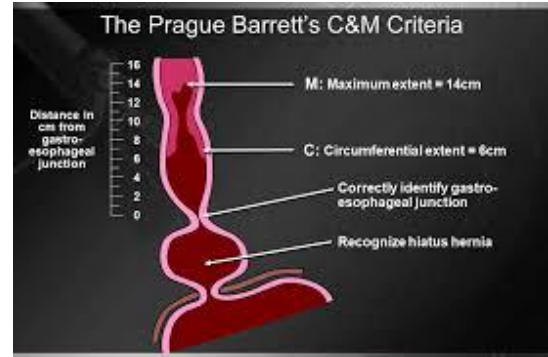
7) A 47 years old patient who suffers from GERD, lately his symptoms worsened and stopped responding to PPIs He was scheduled for an endoscopy, the doctors found reddish mucosa (salmon like appearance) above the gastroesophageal junction, a biopsy was taken and it showed intestinal glandular tissue metaplasia without dysplasia, what of the following is **wrong** about his condition (GI)

- A) Prauge classification is used to assess the linear length of the changes
- B) It increases the risk of developing squamous cell carcinoma
- C) GERD is a big risk factor for this condition

**Answer is B. It increases the risk of developing squamous cell carcinoma**

## Barrett's esophagus

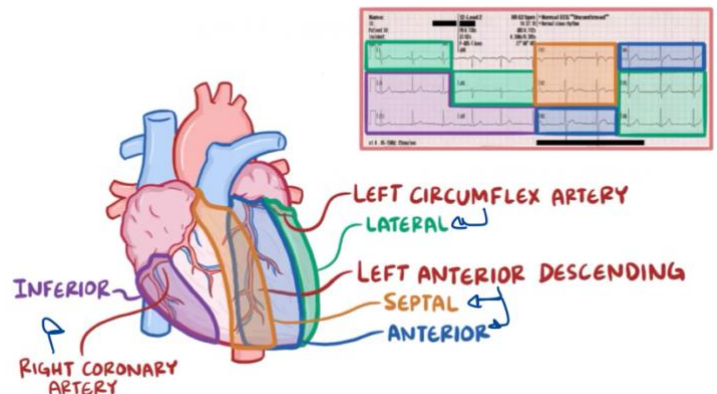
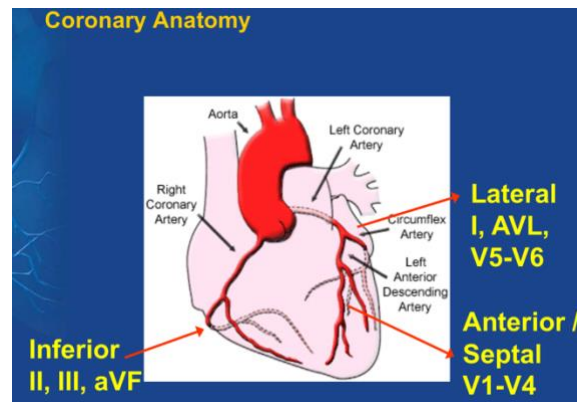
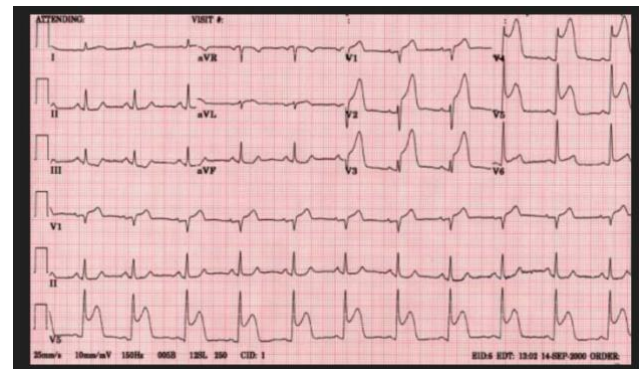
- As a result of chronic GERD
- Metaplastic columnar epithelium replaces the stratified squamous epithelium in the distal esophagus.
- There is increased risk of adenocarcinoma** which is >30-fold above that of the general population (annual cancer incidence 0.1-3%).



8) A case of lady in 50s presents to ER with chest pain, nausea and vomiting, ecg results : (the pic is near to this one) (Cardiology)

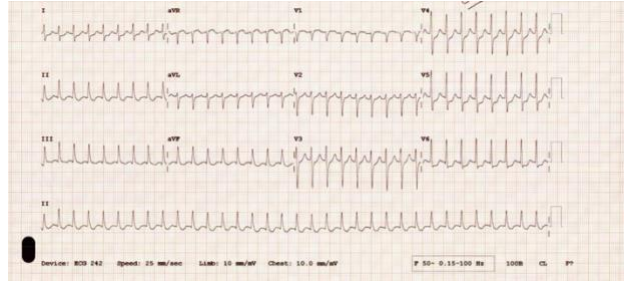
- A) Anterior MI
- B) Inferior MI
- C) Lateral MI
- D) Posterior MI
- E) Acute pericarditis

**Answer is A. Anterior MI**



9) ECG, female patient, HR 160, palpitations (cardiology)

- A) Afib
- B) SVT
- C) VT
- D) MI
- E) Sinus tachycardia



**Answer is B. SVT**

**Rhythm is fast, regular, narrow QRS, absent P waves : textbook supraventricular tachycardia**

10) A 50 YO patient with breast cancer, she underwent excisional lumpectomy, she also performed a santinal node biobsy it was negative her stage is T1N0, what is your advice for her about future servailance ? (Hematology and oncology)

- A) She should undergo a mastectomy
- B) She should do yearly mammogram until the age of 76
- C) She should test plasma CA15-3 yearly until the age of 76

**Answer is B, why ?**

**The patient has T1N0 breast cancer which is early stage with negative santinal node biopsy indicating no metastasis, choice A is extreme and unnecessary regarding her case, choice C, tumor markers are not useful nor used in servailance.**

11) Female patient with no symptoms, has FbG of 147, HgbA1c 6.5 what do you tell her

- A) She has prediabetes start metformin (endocrine)
- B) She has DM2 start metformin
- C) Repeat FbG
- D) Repeat HgA1c in 6 months
- E) Assure the patient that her fasting blood glucose is high and should be repeated


**Answer is B. She has DM start metformin**

**Two positive tests meet the criteria for the diagnosis of diabetes**

## Criteria for the diagnosis of diabetes

1. A1C  $\geq 6.5$  percent. \*
2. FPG  $\geq 126$  mg/dL . No caloric intake for at least 8 h.\*
3. Two-hour plasma glucose  $\geq 200$  mg/dL during an OGTT. 75 g anhydrous glucose dissolved in water.\*
4. In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose  $\geq 200$  mg/dL .

\* In the absence of unequivocal hyperglycemia, criteria 1–3 should be confirmed by repeat testing.

12) A male patient with repeated syncope, on ECG we found prolonged QRS complex, inverted T wave in lead V1,V2,V3, absent Q waves in lateral leads which is suggesting of LBBB, how do you confirm the diagnosis ? 

- A) EP study
- B) Holter monitor
- C) Echocardiogram
- D) CT angiogram
- E) Cardio MRI

**Answer is most likely to be E. Cardiac MRI, A. Is a good modality however it's super invasive so it's not first line, B. Is used to detect hidden abnormalities in this case we have an established suspicion, C. Good initial tool however less sensitive than MRI (it could be the answer we are not completely sure), D. Does not provide any value in the diagnosis of BBB which is a conduction problem.**

13) A patient who has hypertension, chronic HBV infection, came to your clinic with distended abdomen, positive transmitted thrills and shifting dullness, ascites fluid sample shows the following serum protein 3.2, serum albumin 2.5, ascites total protein 2.7, ascites albumin 0.8, lymphocytes 230, 20% neutrophils, what is the most likely cause for his ascites (gi)

- A) right heart failure
- B) Cirrhosis associated ascites
- C) Spontaneous bacterial peritonitis
- D) Nephrotic syndrome

**Answer is A. Right heart failure**

	SAAG (g/dL)	
	≥ 1.1	< 1.1
Total protein (g/dL)		
< 2.5	Cirrhosis Acute liver failure	Nephrotic syndrom
≥ 2.5	CHF Constrictive pericarditis Budd-Chiari syndrome Veno-occlusive disease	Peritoneal carcinomatosis TB peritonitis Pancreatic ascites Chylous ascites

14) 21 male patient, sexual dysfunction, he is 197 cm tall, with no beard, examination shows small stiff testies , abnormal hair distribution, high LH, FSH, best next step (endocrine)

- A) Kerotyping
- B) Tasticular ultrasound
- C) Start testosterone therapy

**Answer is A. Kerotyping**

**Suspected klinefelter**

15) A 24 years old female patient comes to your rheumatology clinic complaining from pain in her hand and morning stiffness that lasts more than 1 hour, on examination you find dry eyes and mouth, tender proximal interpharngeal joints, on serology ACCP is positive, what is the most likely diagnosis ? (Rheumatology)

- A) Shogren syndrome
- B) Rhematoid arthritis
- C) SLE

**Answer is B. Rhematoid arthritis**

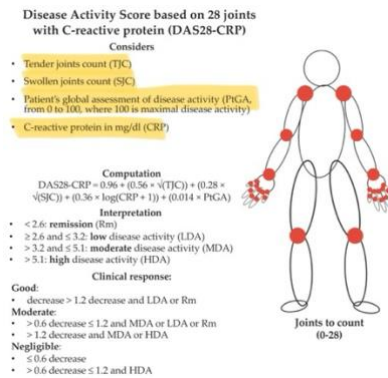
**PIP joint tenderness, positive anti CCP are highly suggestive of RA**

16) Which of the following is not part of the DAS28 score for assessing the treatment effectiveness in RA ( Rheumatology)



- A) Number of swollen joints
- B) Number of tender joints
- C) Patient's global health assessment
- D) Inflammatory markers CRP,ESR
- E) Duration of stiffness

**Answer is E. Duration of stiffness**



17) Acromegaly, the best test to confirm the diagnosis is : (endocrine)

- A) ILGF-1
- B) OGTT
- C) Insulin tolerance test

**Answer is B. OGTT**

## Growth Hormone Disorders Approach

- ▶ **Screening tests:** Request if you suspect a GH disorder in your patient.
  - ▶ Blood IGF-1 levels: Increased in acromegaly patients.
  - ▶ Blood IGFBP-3 levels: Decreased in dwarfism patients.
- ▶ **Definitive dx tests:** Request if you want to confirm the GH disorder.
  - ▶ Oral glucose tolerance test: Failure to suppress GH in acromegaly patients.
  - ▶ GH stimulation test (usually by injecting insulin to induce hypoglycemia in the patient): Failure to stimulate GH in dwarfism patients.

18) Which of the following causes hypoxia with normal A-a gradient (respiratory)

- A) Chest deformities
- B) Asthma

- C) Pneumonia
- D) Plural effusion

**Answer is A. Chest deformities**

**Chest wall deformities causes hypoventilation related hypoxia**

Causes of Hypoxemia			
Cause	PaO <sub>2</sub>	A-a gradient	PaO <sub>2</sub> response to supplemental oxygen
Hypoventilation	Decreased	Normal	Increases
Diffusion Impairment	Decreased	Increased	Increases
Shunt	Decreased	Increased	Does not increase.
V/Q Mismatch	Decreased	Increased	Usually increases (depends on V/Q mismatch type)
High Altitude	Decreased	Normal	Increases

19) Which of the following favors the diagnosis of cushing disease over pseudo cushing? (Endocrine)

- A) Moonface
- B) Purple abdominal stria
- C) Central obesity
- D) Inability to stand up from lying position
- E) Buffelo hump

**Answer is D. Inability to stand up from lying position**

**Proximal myopathy is only seen in cushing disease**

• **Pseudo-cushing's syndrome:**

1. Depression
2. Obesity
3. Physical stress
4. Malnutrition
5. Eating disorders
6. PCOS
7. Uncontrolled diabetes
8. Obstructive sleep apnea
9. Chronic alcoholism

20) Why do we cross match before blood transfusion? (Hematology)

- A- To avoid having Antibodies against the recipient RBC
- B- To avoid having Antibodies against the recipient plasma proteins
- C- To avoid having Antibodies against the donors RBC
- D- To avoid having Antibodies donors the recipient plasma protein
- E- To avoid HCV infection

**Answer is C. To avoid having antibodies against the donors RBCs**

21) True about hand washing (infectious)

- A- You don't have to wash your hands after contact with patients fluids
- B- You should rub your hands maximum 10 seconds
- C- Alcohol rub inactivates Hepatitis C virus
- D- Gloves are good alternative for hand washing

**Answer is C. Alcohol rub inactivates Hepatitis C virus**

**All other choices are obviously wrong**

22) Modified MRC scale in a patient who is behind and needs to rest when walking with friends (cardiology)

- A) 0
- B) 1
- C) 2
- D) 3
- E) 4

**Answer is C. 2**

19.28 Modified MRC dyspnoea scale	
Grade	Degree of breathlessness related to activities
0	No breathlessness, except with strenuous exercise
1	Breathlessness when hurrying on the level or walking up a slight hill
2	Walks slower than contemporaries on level ground because of breathlessness or has to stop for breath when walking at own pace
3	Stops for breath after walking about 100 m or after a few minutes on level ground
4	Too breathless to leave the house, or breathless when dressing or undressing
(MRC = Medical Research Council)	

23) 23 Female patients who has a parrot at home, complaining of dyspnea, cough, polyurea and constipation investigations showed hilar lymphadenopathy and lung infiltrates what is your diagnosis (respiratory)

- A) Hypersensitivity pneumonitis
- B) Pneumonia
- C) Sarcoidosis
- D) Vasculitis

**Answer is C. Sarcoidosis**

**lymphadenopathy and lung infiltrates = sarcoidosis, polyuria and constipation are signs of hypercalcemia which supports the diagnosis of sarcoidosis, the parrot may suggest hypersensitivity pneumonitis however it does not cause hilar lymphadenopathy and that makes C. Sarcoidosis the most appropriate answer**

24) PFT Fev1 33%, 47% post bronchodilator with more than 200 ml increase (respiratory)

- A) Severe limitation with positive reversability
- B) Severe non reversible
- C) Very severe reversible
- D) Very severe irreversible
- E) Intermediate

**Answer is A. severe limitations with positive reversibility**



### Classification of COPD Severity by Spirometry

Stage I: Mild	FEV <sub>1</sub> /FVC < 0.70 FEV <sub>1</sub> ≥ 80% predicted
Stage II: Moderate	FEV <sub>1</sub> /FVC < 0.70 50% ≤ FEV <sub>1</sub> < 80% predicted
Stage III: Severe	FEV <sub>1</sub> /FVC < 0.70 30% ≤ FEV <sub>1</sub> < 50% predicted
Stage IV: Very Severe	FEV <sub>1</sub> /FVC < 0.70 FEV <sub>1</sub> < 30% predicted <i>or</i> FEV <sub>1</sub> < 50% predicted <i>plus</i> chronic respiratory failure

- Definition of significant response
  - FEV<sub>1</sub> or FVC inc. by 12% AND 200ml
- What does reversibility mean?
  - Reversible airflow obstruction
  - Asthma
  - COPD with reversibility
  - COPD + asthma (ACO previously ACOS)

25) IBD extraintestinal manifestation that correlates with disease activity: (gi)

- A) Sacroiliitis
- B) PSC
- C) Anterior uveitis
- D) Episcleritis
- E) Pyoderma gangrenosum

**Answer is D. Episcleritis**

**Everything in yellow correlates with disease activity, everything in white does not**

### Systemic complications of IBD

- Eye involvement with conjunctivitis, uveitis and episcleritis
- ankylosing spondylitis & Sacroiliitis
- peripheral arthritis
- Sclerosing cholangitis, steatosis, cholelithiasis
- Venous and arterial thromboembolism
- Autoimmune hemolytic anemia
- Skin disorders such as erythema nodosum and pyoderma gangrenosum
- Renal calculi, uretric obstruction, fistulas.
- Metabolic bone disease

26) A patient with increased serum alkaline phosphate, GGTP, ALT, AST negative AMA, next step ? (gi)

- A) ERCP
- B) MRCP
- C) Serum IgM
- D) Serum IgG

**Answer is B. MRCP**

**Positive ALP, GGT -> cholestatic pattern, -ve AMA rules out PBC, the best next step is to asses bile ducts via MRCP**

- 27) 35 years old patient, dysphgia for solid and liquids, progressive ,lost 5 kilograms lately, barium swallow showed obstruction at the level of lower esophageal sphincter whith bird's beak appearance, most appropriate next step ? (gi)
- A) Endoscopy
  - B) Manometry


**Answer is B. Manometry**

**The bird's peak appearance suggests achalasia which is a motility disorder diagnosed via manometry**

- 28) A case of metabolic dysfunction and steatotic liver disease, what is the most common cause of death ? (gi)
- A) Upper GI bleeding
  - B) Liver failure
  - C) CVDs
  - D) Encephalopathy

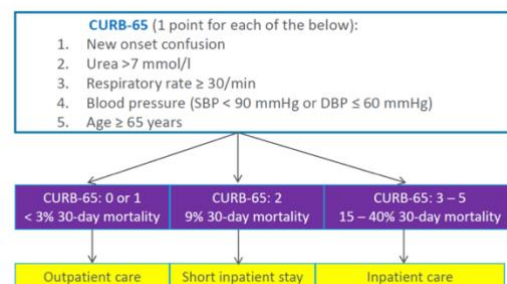
**Answer is C. CVD's**

**Cardiovascular diseases are the most common cause of death in these patients due to vascular effect**

- 29) A 40 years old female patient came with a fever 38,2 and cough, her heart rate is 101 bpm, RR is 20bpm she has posterior dullness and chrackles on the lower left side , her blood urea is 25, which of the following is true regarding her case (respiratory)
- A) Her CURB65 is 2
  - B) The cause of her pneumonia is Atypical
  - C) She needs to be admitted and given IV antibiotics
  - D) She should be discharged home on oral antibiotics 

**Answer is D. She should be discharged home on oral antibiotics**

**Choice A.CURP65 is one, B. Nothing in the stem of the question suggesting atypical pneumonia, C. CURB65 score of 1 suggests that outpatient treatment is sufficient**



- 30) A patient who has active pancreatic cancer suffers from right leg calf pain and hotness started suddenly complaining of chest pain and dyspnea, he is hypotensive, tachycardic, what is the appropriate management ? (Respiratory)
- A) D-dimer
  - B) Lung CT with contrast
  - C) V/Q scan
  - D) Echocardiogram
  - E) Start anticoagulant therapy

**Answer is B. Lung CT with contrast**

**Active malignancy, characteristic pain, previous calf pain general symptoms all lead to high PE suspicion, so lung CT with contrast (PE protocol ) is the most appropriate choice**

- 31) What is the causative organism for Pott's disease (ID)
- A) Mycoplasma Tuberculosis
  - B) Helicobacter jejuni
  - C) Brucella canis

**Answer is A. Mycoplasma tuberculosis**

## **Skeletal TB**

- most common is the spine (Pott disease)
  - back pain or stiffness
  - Lower-extremity paralysis occurs in 50%
- TB arthritis usually involves one joint
  - the hips and knees are affected most commonly > the ankle > elbow > wrist > and shoulder

- 32) In OHS what is the most appropriate investigation? (Endocrine)
- A) PSG only
  - B) Daytime hypercapnea with  $>27$   $\text{HCO}_3^-$
  - C) ECG

**Answer is B. Daytime hypercapnea with  $\text{HCO}_3^- > 27$**

**B is an ABG test results which is the best modality for the diagnosis of OHS**

Criteria for diagnosis

- Room air arterial blood gas.

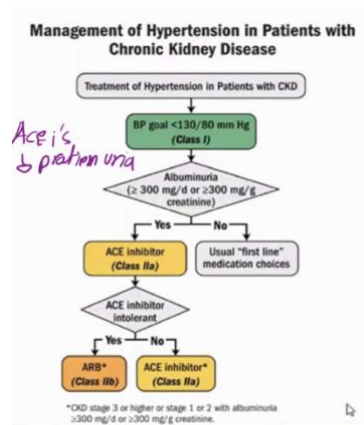
Supportive tests for diagnosis :

- Elevated serum bicarbonate levels  $>27$  mmol/L....? **Early stage** . NPPV
- And hypoxaemia

33) In hypertensive patients with CKD and proteinuria what is the most appropriate antihypertensive agent ? (Cardio or nephro)

- A) CCB
- B) BBs
- C) ACEI's
- D) Loop diuretics

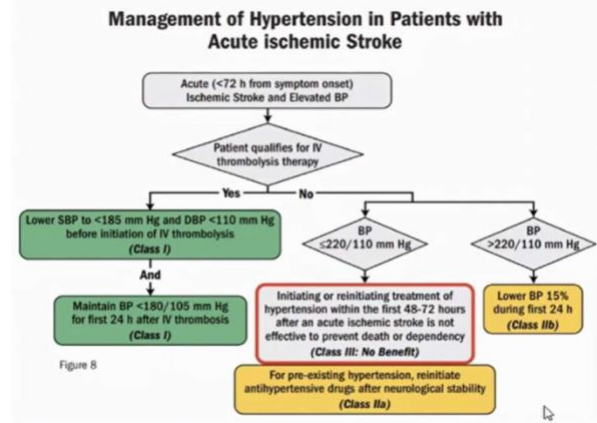
**Answer is C. ACEI's**



34) Hypertensive patient developed sudden hemiparesis 2 hours ago, his Bp is 210/110 what is the most appropriate management? (Cardiology)

- A) Give thrombolytic therapy
- B) Lower blood pressure to 185/110 then give thrombolytic therapy ☒
- C) No benefit of giving thrombolytic therapy now

**Answer is B. Lower blood pressure to 185/110 then give thrombolytic therapy**



35) Least likely cause of death in sickle cell (hematology)

- A) systemic infection
- B) local infection
- C) MI
- D) pulmonary embolism
- E) Stroke

**Answer is D or C we are not sure** ✓

36) Left upper sternal border systolic murmur with suprasternal thrill, p2 does not split  
ejection click just after S1

- A) Aortic stenosis
- B) Pulmonary stenosis
- C) Mitral stenosis
- D) Mitral regurgitation
- E) Tricuspid stenosis

**Answer is B. Pulmonary stenosis**

#### Auscultation of the heart

Where to listen: **APT M**

**A** Aortic area:

Systolic murmur  
Aortic stenosis  
Flow murmur  
Big physiologic murmur  
Aortic valve sclerosis

**P** Pulmonic area:

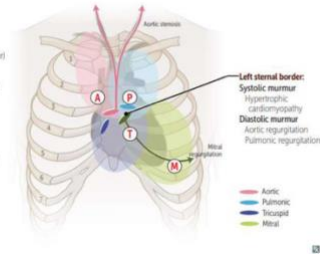
Systolic ejection murmur  
Pulmonic stenosis  
Atrial septal defect  
Flow murmur

**T** Tricuspid area:

Holosystolic murmur  
Tricuspid regurgitation  
Ventricular septal defect  
Diastolic murmur  
Tricuspid stenosis

**M** Mitral area (apex):

Systolic murmur  
Mitral regurgitation  
Mitral valve prolapse  
Diastolic murmur  
Mitral stenosis



37) Which of the following requires infective endocarditis prophylaxis?

- A) Vagitations
- B) Valve replacement
- C) Mitral stenosis
- D) VSD

**Answer is B. Valve replacement**



## Infective endocarditis

Which procedures require prophylaxis?

- Dental procedures
  - Manipulation of gingival tissue or root of teeth
  - Perforation of oral mucosa
  - Cleaning, extraction, root canal
- Incision into active skin/soft tissue infection
- Incision or biopsy in respiratory tract
  - Tonsillectomy/adenoidectomy
  - Bronchoscopy with biopsy

## Infective endocarditis

Which procedures DO NOT require prophylaxis?

- Dental injections or X-rays
- Placement or adjustment of orthodontic appliances
- Bleeding from trauma to lips or oral mucosa
- Shedding of deciduous teeth
- Bronchoscopy without biopsy
- GI or GU procedures without active infection

38) A female young patient with anemia, recurrent epistaxis, heavy period, normal platelets count, positive family history for bleeding problem, PT, PTT are normal, her hemoglobin is 8. Next step? (Hematology)

- A- Bleeding time
- B- Bone marrow biopsy
- C- Iron studies
- D- Mixing studies

**Answer is A. Bleeding time**

The case is female, young, heavy periods, is a textbook VWD, the normal PT, PTT supports the suspicion, the best next step is assessing bleeding time, and it should be prolonged, B. Is absolutely unnecessary and useless, C and D are irrelevant.

39) Thrombocytopenia, found in all of the following except: (hematology)

- A) IDA
- B) MDS

**Answer is A. IDA**

40) Which is true with IDA (hematology)

- A) High ferritin
- B) High serum iron
- C) High retic count
- D) High iron binding capacity
- E) High hepcidin

**Answer is D. High iron binding capacity**

Test	Fe Deficiency
Serum iron	↓
TIBC	↑
Serum ferritin	↓
% saturation	↓↓

41) 74 years old patient, sudden psychotic behavior, loss of peripheral sensation, the most likely cause: (hematology)

- A) Vit B12 deficiency
- B) IDA

**Answer is A. Vit B12 deficiency**

42) Which of the following is least associated with insulin resistance (endocrine)

- A) Gestational diabetes
- B) Diabetes after transplant
- C) Diabetes of cystic fibrosis
- D) Type 2 diabetes

**Answer is C. Cystic fibrosis, it's pathophysiology is exocrine malfunction, the rest of the choices are insulin resistance dependent**

**C. Diseases of the exocrine pancreas**

1. Pancreatitis
2. Trauma/pancreatectomy
3. Neoplasia
4. Cystic fibrosis
5. Hemochromatosis
6. Fibrocalculous pancreatopathy
7. Others

43) Hepatitis B question (not true ?) (gi)

- A) low virus with breast milk
- B) Low virus DNA in immune tolerance
- C) immune clearance High HBeAg and normal ALT and low anti-HBe
- D) immune reactive high HBeAg and High ALT and ..
- E) chronicity more common in neonates than adults

- 44) 32 years old patient, decreased libido, new onset diabetes, skin discoloration, most appropriate : (hematology)
- A) Liver biopsy and stain
  - B) HFE,C282Y genetic testing
  - C) Trial phyllobotony
  - D) Start chelating agent

**Answer is B. HFE,C282Y genetic testing**

**A is good but B is better (less invasive)**

- 45) A patient with mitral stenosis of 0.7 cm, afib ? best prophylaxis anti coagulant : (cardiology)
- A) Aspirin
  - B) Clopidogrel
  - C) Warfarin
  - D) Aspirin + clopidogrel
  - E) Apixiban

**Answer is C. Warfarin**

**Warfarin is anticoagulant of choice in rheumatic valvular disease**

- 46) A patient comes to your clinic complaining of pain and swelling in his right knee that started suddenly without previous trauma, he had diarrhea and GI upset a couple of days ago but didn't think much of it, he now has fever, what of the following is most likely to be the cause of his diarrhea (rheumatology)
- A) E Coli
  - B) Streptococcus pyogenes
  - C) Campylobacter jejuni
  - D) Staphylococcus aureus
  - E) Neisseria gonorrhea

**The answer is C. Campylobacter jejuni**

**It's a case of reactive arthritis, diarrhea and GI upset suggests GI tract origin of infection**

Infectious agents commonly and less frequently associated with reactive arthritis.

Gastrointestinal tract	<i>Yersinia</i> <i>Salmonella</i> <i>Shigella</i> <i>Campylobacter jejuni</i>
Urogenital tract	<i>Chlamydia trachomatis</i> <i>Neisseria gonorrhoea</i> <i>Mycoplasma genitalium</i> <i>Ureaplasma urealyticum</i>
Less frequent agents	<i>Clostridium difficile</i> <i>Campylobacter lari</i> <i>Chlamydia psittaci</i> <i>Chlamydia pneumoniae</i>

47) Which of the following antibiotics has good anaerobic coverage? (ID)

- A) Clindamycin
- B) Vancomycin
- C) Ciprofloxacin
- D) Amikacin

**Answer is A. Clindamycin**

48) True about Autoimmune liver disease (gi)

- A) In PSC small ducts are more involved than large ducts
- B) Florid sign with PSC
- C) Onion sign with PBC
- D) PBC is associated with sicca symptoms

**Answer is D, PBC is associated with sicca symptoms**

49) Rheumatic severe mitral stenosis, what would you hear (cardiology)

- A) Early diastolic added sound just after S2
- B) Pan systolic murmur
- C) Mid diastolic rumbling
- D) Loud S1

**Answer is C. mid diastolic rumbling**

### According to Macleod's :

Mitral stenosis causes a low-pitched, rumbling mid-diastolic murmur that may follow an opening snap (Fig. 4.26). The cadence sounds like 'lup-ta-ta-rru': 'lup' is the S<sub>1</sub> (typically loud), 'ta-ta' the S<sub>2</sub> and opening snap, and 'rru' the mid-diastolic murmur. If the patient is in sinus rhythm, left atrial contraction causes presystolic accentuation of the murmur. The murmur is often difficult to hear but is best appreciated with the bell (using light pressure) at the apex with the patient positioned on their left side; it can be accentuated by exercise such as touching the toes or raising the legs up and down on the bed several times.

The murmur of tricuspid stenosis is similar but very rare.

50) A patient who is hyperkalemic for some reason, right order of intervention :

(Nephrology)

- A) Calcium gluconate – bicarbonate- insulin/glucose
- B) Insulin/glucose – bicarbonate
- C) Calcium gluconate – insulin/ glucose- bicarbonate
- D) Dialysis

**Answer is C**

51) A 70 years old patient who is known to have epilepsy and HTN comes to the ER with reduced consciousness, hypertension and diffuse hand and legs pain, he's on Carbamazepine, propranolol, valsartan, captopril, atorvastatin, Ka 7, bicarb was low I think, creatinine 3, urine 1ml/kg/h, ++ Protein in urine, +++ blood in urine, 20 WBC/powerfield in urine. granular muddy brown casts in urine What is the most likely diagnosis (nephrology)

- A) tumor lysis syndrome
- B) Rhabdomyolysis
- C) Drug induced acute kidney injury

**Answer is B Rhabdomyolysis**

**hands and legs pain, signs of ATN, hyperkalemia, all signs of severe rhabdomyolysis, the combination of Valsartan and Carbamazepine -two myopathic drugs- supports the diagnosis, why not A ? There is no indication of malignancy or chemotherapy or Uric acid levels.**

52) pH 7.31, potassium 6, high calcium, low bicarbonates, acidic urine (nephrology)

- A) Distal tubular acidosis

- B) RTA IV
- C) RTA II
- D) CKD
- E) Proximal renal acidosis

**Answer is B. RTA IV**

Feature	Type 1 RTA(Distal)	Type 2 RTA(Proximal)	Type 4 RTA(Hyperkalemic)	CKD(Chronic Kidney Disease)
Site of defect	Distal tubule	Proximal tubule	Collecting duct / aldosterone	Global nephron loss
Primary defect	↓ H <sup>+</sup> secretion	↓ HCO <sub>3</sub> <sup>-</sup> reabsorption	↓ Aldosterone or resistance	↓ GFR, ↓ waste excretion
Serum K <sup>+</sup>	↓ (Hypokalemia)	↓ (Hypokalemia)	↑ (Hyperkalemia)	↑ or ↓ depending on stage/meds
Urine pH	> 5.5	< 5.5	< 5.5	Usually < 5.5 (acidified unless late) ↓ (as GFR falls)
Serum HCO <sub>3</sub> <sup>-</sup>	↓	↓↓↓	↓	Often positive (late stage)
Urine anion gap	Positive	Variable	Positive	Possible (esp. with hyperparathyroidism)
Nephrolithiasis	Common	Rare	Rare	↓↓↓ progressively
GFR	Normal	Normal	Normal to mildly ↓	↑ chronically
Creatinine	Normal	Normal	Normal to slightly ↑	Diabetes, hypertension, GN, aging

53) Not a part of MDS score (hematology)

- A) MCV
- B) Marrow blasts
- C) Platelets count
- D) Neutrophils count
- E) Anemia

**Answer is A. MCV**

Prognostic variable	IPSS-R prognostic score values (%)						
	0	0.5	1	1.5	2	3	4
Cytogenetics*	Very good		Good		Intermediate	Poor	Very poor
Bone marrow blast %	≤2		>2–<5		5–10	>10	
Hemoglobin	≥10		8–<10		<8		
Platelets	≥100	50–<100	<50				
Absolute neutrophil count	≥0.8	<0.8					

54) History of Raynaud's phenomenon, migraine, patient had chest pain, ECG showed ST elevation he was sent to cath lab doctors found no occluded or narrowed arteries, most likely diagnosis (cardiology)

- A) Unstable angina

B) Vasospastic angina

**Answer is B. Vasospastic angina**

55) Which of the following is true regarding Ankylosing spondylitis (rheumatology)

- A) HLA-B27 is diagnostic
- B) Absence of HLA-B27 can rule out the diagnosis
- C) Positive HLA-27 increases the risk of familial disease
- D) Most associated with psoriatic arthritis

**Answer is C**

56) Mechanism of action of AZT (ZIDOVUDINE) (ID)

- A) Nucleoside reverse transcriptase inhibitor (NRTI)
- B) Protease inhibitor
- C) Nonnucleoside reverse transcriptase inhibitor (NNRTI)
- D) Fusion inhibitor

**Answer is A**

57) Not associated with poor asthma control (respiratory)

- A) Smoking
- B) Poor inhaler technique
- C) Vitamin D deficiency
- D) Family history of asthma

**Answer is D, family history is a risk factor and doesn't affect current disease**

58) 35 years old man with secondary hypertension, he has high blood pressure, weak lower limbs pulses, his legs get cold when he lies down and sometimes he gets tingling sensation in his lower extremities, what is the most appropriate investigation in this case: (cardiology)

- A) Echocardiogram
- B) ECG
- C) Thoracic angiogram
- D) Renal ultrasound
- E) Serum VMA levels

**Answer is C. Thoracic angiogram**

**The question is suggestive of aortic coartication, the best modality to confirm the diagnosis is thoracic angiography**

59) Wrong about functional dyspepsia (gi)

- A) Criteria is rome IV
- B) Onset more than 3 months ago
- C) Polidromal type is more common than epigastric type
- D) Epigastric type is not related to food

**Answer is B. Onset more than 3 months ago**

**According to rome IV criteria onset should be more than 6 months ago**

**Definition: (Rome IV)**

(Onset:  $\geq 6$ Ms + Duration:  $\geq 3$ Ms):  $\geq 1$  of:

- Postprandial **fullness** • Early **satiety**
- Epigastric **pain** • Epigastric **burning**

+

No evidence of structural D/O (N. EGD)

± Gastric Scintigraphy

+

No evidence that dyspepsia exclusively relieved by defecation or is assoc w/the onset of change in stool frequency or form

60) 21 female, dyspnea, acute, EF 25% on echo dilated left ventricle, diagnosis?

(Cardiology)

- A) Acute MI
- B) Idiopathic dilated cardiomyopathy
- C) Post infectious dilated cardiomyopathy
- D) HOCM

**Answer is B, due to young age MI is unlikely , no mention of previous infections**

61) Best next step (hematology)

- A) Micro albumin test ????

62) Type of isolation in TB (ID)

- A) Droplets isolation
- B) Respiratory isolation
- C) Contact isolation
- D) Positive pressure isolation
- E) Protective isolation

**Answer is B**

63) A patient was admitted for low sodium, her sodium was 130 and it was corrected to 141 on slow infusion over the course of 12 hours, 2 hours later she became Quadriplegic, with dysarthria, what's the most possible cause ? (Endocrine?)



- A) Brain edema
- B) Pontine osmotic demyelination
- C) Stroke

**Answer is B. Pontine osmotic demyelination, due to fast correction of sodium**

64) A patient with chronic AF developed sudden left leg pain, her leg was cold and pale with absent dorsalis pedis and posterior tibial pulses, what is the most possible cause? (Cardiology)

- A) Venous embolism
- B) Phlebitis
- C) Arterial embolism
- D) Aortic dissection

**Answer is C. Arterial embolism**

65) Which of the following has increased fragility on Osmotic fragility test? (Hematology)

- A) Hereditary spherocytosis
- B) Sickle cell anemia
- C) B thalassemia

**Answer is A**

66) Most specific antibody for SLE (rheumatology)

- A) Smith
- B) Anti dsDNA
- C) ANA
- D) Anti Ro/SSA
- E) Anti La/SSB

**Answer maybe A, Some say it's B, I guess we will never know 🤔**

67) True about injectable influenza vaccine (ID)

- A) Contains two types of the virus
- B) Indicated in pregnant women
- C) Contraindicated in people with fish allergy
- D) Given in December in temperate countries
- E) 60% efficacy

**Answer is B, it's in the vaccine seminar slides**

68) Vasculitis with nasal bridge destruction and proptosis, positive cANCA

- A) Wegner's
- B) EGPA
- C) Polyarthritis nodosa

**Answer is A. Wegner's**

*Granulomatosis with polyangiitis  
GPA, formerly Wegener's*

- Granulomatous necrotising vasculitis affecting small to medium vessels
- Affects ENT, kidney & lung
- ANCA in >90% (mostly cANCA)
- 10/million/year
- Aetiology unknown *very rare*

*thickened*

WG: Left orbital mass causing proptosis and visual loss through compression of the optic nerve

Exophthalmos due to orbital pseudotumors

Saddle-nose in WG

Irreversible pain and loss of vision  
Indicators for therapy

*normal* *Wegener's*

*sinusitis*

69) 50 year old patient shoulder pain, morning stiffness, proximal muscle weakness  
joint function is normal , no jaw claudication or tempol tenderness, high CRP,ESR  
diagnosis : (rheumatology)

- A) Ankylosing spondylitis
- B) Rheumatoid arthritis
- C) Polymyalgia rheumatica

**Answer is C. Polymyalgia Rheumatica**

- Closely associated with GCA
- May be seen in 40–50% of patients With GCA
- Pain and stiffness in shoulder and pelvic girdles worse in morning
- Good response to steroids *drawn*

70) Female 24, Type one diabetes , sweaty, unconscious,acidosis severe low bicarb,  
glucose 500, anion gap 22, best next step:

- A) Measure ketone bodies in urine
- B) Measure delta gap

C) Measure serum lactate

**Answer is B. Measure delta gap**

**The patient has classic symptoms of DKA, delta gap helps in determining if there is mixed acid base disorder, A. Is good for diagnosis however not management**

71) Most common site for Crohn's disease involvement

- A) Iliocecal
- B) Colon
- C) Rectum

**Answer is A. Iliocecal**

72) Which of the following characteristics favors the diagnosis of ulcerative colitis over Crohn's disease ? (gi)

- A) Oral ulcers
- B) Esophageal ulcers and cobblestoning
- C) Anal tags
- D) Continuous disease with rectal involvement

**Answer is D**

**Choices A. Oral ulcers are seen with crohn's, B. Esophageal ulcers and cobblestoning are characteristics for crohn's, C. Anal tags are seen with crohn's D. Continuous disease and involvement of rectum favors UC**

73) A patient with constipation, bloating, abdominal pain, foul smelling feces, positive anti tTG (anti-tissue transglutaminase) next step in management? (gi)

- A) Colonoscopy
- B) Upper endoscopy with ileum biopsy
- C) Upper endoscopy with duodenum biopsy
- D) Start gluten free diet

**Answer is C. Upper endoscopy with duodenum biopsy**

**The question suggests celiac disease Choices, A. Colonoscopy is not helpful, B. Ileum is not a primary site for celiac, D. We should not start gluten free diet before confirming the diagnosis especially since it can mask the symptoms.**

74) A patient with a murmur, blood pressure 190/100, systolic, increase with squatting, decreased with valsalva, most likely to be the reason : (cardiology)

- A) HOCM
- B) Pulmonary stenosis

C) Aortic stenosis

**Answer is C. Aortic stenosis**

PHYSICAL EXAM		
Bisferiens pulse ("spike and dome") S4 gallop Crescendo/Decrescendo systolic ejection murmur		
HOCM vs. Valvular AS	Intensity of murmur	
	HOCM	AS
Valsalva (↓preload, ↓ afterload)	↑	↓
Squatting (↑ preload, ↑ afterload)	↓	↑
Standing (↓preload, ↓ afterload)	↑	↓
Holosystolic apical blowing murmur of mitral regurgitation		

75) True about microalbuminuria (nephrology)

- A) Microalbuminuria could be reversible with tight glycemic control
- B) Onset of microalbuminuria in T1DM coincides with development of HTN
- C) Weak prediction of CVS morbidity
- D) Need only one result that shows 30-300 mg/24h

**Answer is B**

76) Adult patient with ADPKD, what of the following is a common extrarenal manifestation ?

- A) Cerebral aneurysms
- B) Hepatic cyst
- C) Pancreatic cyst

**Answer is B. Hepatic cyst according to chat gpt**

77) Which of the following is a poor prognostic sign in IGA nephropathy ? (Nephrology)

- A) IgA deposits
- B) HTN at the time of diagnosis
- C) Serum IgA level
- D) Macroscopic hematuria

**Answer is B. HTN**

Prognostic Markers at Presentation in IgA Nephropathy	
Clinical	Histopathologic
<b>Poor Prognosis</b>	
Hypertension	Mesangial hypercellularity
Renal impairment	Endocapillary proliferation
Severity of proteinuria	Segmental glomerulosclerosis
Hyperuricemia	Tubular atrophy
Gross obesity	Interstitial fibrosis
Duration of preceding symptoms	Capillary loop IgA deposits
Increasing age	Crescents (controversial)
<b>Good Prognosis</b>	
Recurrent macroscopic hematuria	
<b>No Impact on Prognosis</b>	
Gender	Intensity of IgA deposits
Serum IgA level	

78) Diabetic female patient was admitted for an infected puncture wound a couple of days ago, she is on amoxicillin, she presented with raised serum creatinine, +1 RBC, +1 WBC proteinuria, most likely diagnosis? (Nephrology)

- A) ATN
- B) Postinfectious IgA nephropathy
- C) AIN
- D) RTA

**Answer is C. AIN (drug induced)**

79) Diarrhea, vomiting, abdominal pain 6 hours after eating fried rice, the pathogen: (ID)

- A) Brucella
- B) B. Cereus
- C) Yersenia
- D) Shigella

**Answer is B**

80) A 53 years old patient comes with bilateral knee pain that is worse with walking, not relieved by NSAIDs any more he used to play football when he was younger, he has history of obesity and hypertension, what is the best management in his case (rheumatology)

- A) Steroid
- B) Week long acting opioids
- C) Daily low intensity walking

D) Weight loss

**Answer is D. Weight loss , it's the first line management for osteoarthritis**

81) True about HBV (gi)

- A) Its vaccine is protective against hepatitis D virus
- B) Vaccine should be repeated every 10 years
- C) Vaccine effectiveness is 60%

**Answer is A**

82) A patient with severe headache, rash, neck stiffness, fever and lethargy, the causative organism : (ID)

- A) Mycoplasma tuberculosis
- B) Neisseria meningitidis

**Answer is B, text book meningitis**

83) True about brucella (ID)

- A) Brucella melitensis is the most virulent type

84) A young patient was admitted for a 72 hours fast to assess persistent hypoglycemia, she was fasting with glucose = 40, and high insulin level, best next step ?  
(Endocrine)

- A) C peptide level
- B) Cortisol
- C) B hydroxy butyrate
- D) Pro insulin

**Answer is A. C peptide level, to determine if the source of insulin is endogenous or exogenous**

85) A patient comes to your clinic for follow up due to bronchiectasis which is the least important factor in the assessment (respiratory)

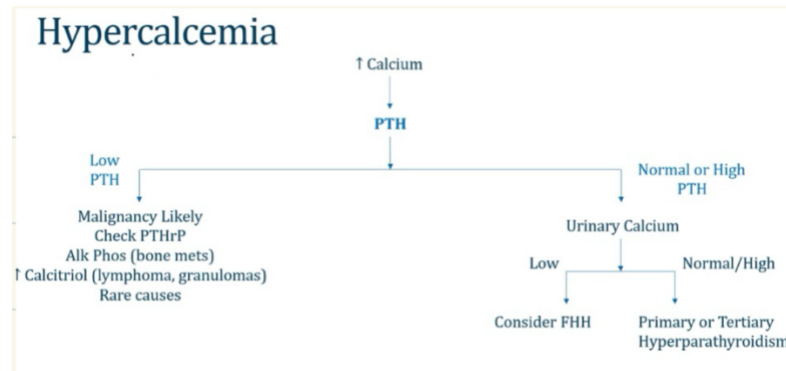
- A) Nasal ciliary biopsy
- B) Serum IgA, IgG, IgE levels
- C) Sweat chloride

**Answer is A. Nasal ciliary biopsy, it's invasive and unnecessary and not used in the diagnosis or following up the disease**

86) A female patient with high calcium level, PTH 4 (1.1-6.8), low urinary calcium she has a brother who she said have a “calcium problem” ! most likely diagnosis (endocrine)

- A) Primary hyperparathyroidism
- B) Familial hypocalciuric hypercalcemia
- C) Secondary hyperparathyroidism

**Answer is B,**



87) Which of the following lesions causes irreversible alopecia in SLE (rheumatology)

- A) Discoid rash
- B) Bioderma gangrenosum
- C) Lupus panniculitis
- D) Childplains lupus

**Answer is A**

88) A patient with acute MI, we successfully gave him a thrombolytic, when should we do PCI ? (Cardiology)

- A) Whithin 3 hrs
- B) only if recurrent
- C) Whithin 3- 24 hrs
- D) Within 3 days

**Answer is C**

89) Male pharmacist, signs of hyperthyroidism, mild goiter on examination, swelling in his left leg, most likely diagnosis (endocrine)

- A) Grave's disease
- B) Physiological issues

**Answer is A. Grave's disease, the leg swelling (peritibial myxedema) is suggestive of it, choice B suggests that the patient is abusing thyroxine being a pharmacist however it's less likely to be the case**

90) True about gout (rheumatology)

- A) Serum Uric acid is consistently low during an attack
- B) Serum Uric acid is consistently high during an attack
- C) Serum Uric acid could be low, moderate, high during an attack

**Answer is C according to Dr. Ola's notes**

91) 70 years old patient, he fell off the stairs a couple of days ago, he presented with decreased air entry on the right side, dullness to percussion, he is on apixiban, amiodrone, and valsartan, which is true regarding his condition (respiratory)

- A) Apixiban mostly precipitated his condition
- B) Amiodrone mostly precipitated his condition
- C) He has malignant effusion
- D) Effusion due to pneumonia
- E) Effusion due to heart failure

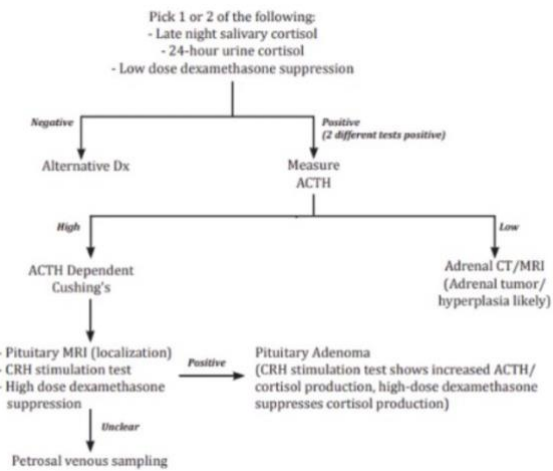
**Answer is A, the patient is on anticoagulant, had a big fall that mostly led to a hemothorax**

92) A patient with increased libido, central obesity, abdominal striae, we performed low dose dexamethasone suppression test, it was negative (no suppression), next best step? (Endocrine)

- A) ACTH serum level
- B) High 8mg dexamethasone suppression test
- C) 8mg dexamethasone over 12 hours



**Answer is A,**



93) Which of the following is characteristic for inflammatory back pain (rheumatology)

- A) Dull pain that is relieved by walking
- B) Sharp pain triggered by walking
- C) Electric pain radiating to the lft leg

**Answer is A,**

94) A patient with CKD, low calcium, normal potassium, low phosphaten normal PTH, (I think low urinary calcuim) what is the mechanism of this patient hypocalcemia ? (Endocrine)

- A) Decreased vitamin D hydroxylation
- B) Increased urinary loss
- C) Increased GI loss
- D) Primary hypoparathyroidism

**Answer is A**

95) 47 years old smoker patient, his father got lung cancer at 65 and died of it, what is your advice for him (respiratory)

- A) Quit smoking, start LDCT yearly at the age 55
- B) Quit smoking, do LDCT yearly starting now
- C) Quit smoking, do chest xray yearly starting now ans start LDCT yearly at the age55

**Answer is A,**

### National Lung Screening Trial

- 53,454 participants
- Age 55-74 (Medicare covers until 77)
- Current or former smokers – 30 pack years. If quit, had to quit within 15 years.
- Randomized to Low Dose CT (LDCT) vs CXR
- Scanned for 3 years followed for 3.5 years
- 20% reduction in lung cancer mortality
- 7% reduction in overall mortality

- 96) Female psychogenic came to ER, fatigue, looks obese, psychiatric issues, BP 105/??, ...pH: 7.48 , hypokalemia 3.1, mg 1.6 , Cl~40, urine k ~100, .... High urine Calcium (nephrology)
- A) Furosemide abuse
  - B) Chronic vomiting
  - C) Liddle
  - D) Gordon syndrome

**Answer is A. Furosemide abuse**

- 97) aggressive lymphoma : (hematology)
- A) Diffuse large B cell lymphoma
  - B) Burkitt's lymphoma
  - C) Mantle cell lymphoma

Answer maybe A, we are not sure

- 98) Patient with multiple myeloma, what is the best next step to interpret his ca level
- A) Albumin
  - B) PTH

**Answer is A, we need the albumin to get corrected calcium levels sense the patient suffers from multiple myeloma**

99) Which of the following doesn't go with asthma

- A) Less than 20% symptoms variability
- B) Exercise increases symptoms
- C) Symptoms are worse at night

**Answer is A**

