Tanta University
Faculty of Medicine **Date: 2-4-2016**
Department of Medical Biochemistry

1st Part Medical Biochemistry Cardiology Exam (Diploma).

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Give an account on each of the following:

1) Biochemical aspects of cardiac markers and their role in the diagnosis of acute myocardial infarction.

2) Mention the clinical significance of the following laboratory parameters:

a) HDL.

b) Total cholesterol.

c) TG.

Good Luck

سيعقد الامتحان الشفوى بمشيئة الله يوم الموافق ٢٠/٤/٢٠١٦

TANTA UNIVERSTY---------- Internal Medicine Exam
FACULTY OF MEDICINE ---------- Diploma degree of cardiology
INTERPNAL MEDICINE DEPARTMENT----------NO. OF QUESTIONS: 3
14/4/2016 ------ ---------- Time: 3

All Questions must be answered :

1- Discuss complications of pneumonia.

2- Causes and investigations of upper gastrointestinal bleeding.

3- Management of metabolic acidosis.

Good Luck
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Examination for Diplome Degree in: cardiology
Course Title: **CARD 7003**
Date:5-4-2016
Term: April 2016
Time Allowed:3 hours
Total Assessment Marks: 30

Tanta University
Faculty of Medicine
Department of:
Pathology

Questions Number	Marks
Q1: Discuss the pathology of cardiomyopathy	**10 marks**
Q2 :Discuss the pathogenesis and pathology of autoimmune heart diseases	**10 marks**
Q3 : Compare between carcinoma and sarcoma	**10 marks**

Chairman of department
Prof Dr. Afaf Alshafey

Tanta University	Cardiology Diploma Degree
Faculty of Medicine	Number of Questions: 4
Department of Cardiology	Time Allowed : 3 Hours
April 12 , 2016	Second Part, First Paper

Cardiology

All Question should be Answered :

1- **Causes and management of secondary hypertension.**

2- **How to approach and treat acute heart failure in the emergency room.**

3- **Classifications and management of atrial fibrillation.**

4- **Mitral valve prolapse.**

Good luck

Cardiology (diploma)

Tanta University	Pharmacology Written Examination
Faculty of Medicine	Number of Questions: 4
Pharmacology Department	Time Allowed: 3 hour
Date: 6/4/2016	Total: 30

Answer the following questions:

1. Give an account on (10 Marks):
   a) Alpha methyldopa (dynamics, uses and side effects)
   b) Lidocaine (dynamics ,uses and side effects)
   c) Nitroglycerine (mode of action, side effects and precautions)
   d) Atorvastatin (mode of action and side effects)

2. Compare between each of the following (9Marks):
   a) Dopamine and dobutamine
   b) Edrophonium and neostigmine
   c) Heparin and enoxaparin

3. Give short account on treatment of (9Marks)
   a) Acute pulmonary edema
   b) Cardiogenic shock
   c) Digitalis toxicity

4. Give reason on each of the following (2Marks):
   a) Digitalis is contraindicated in myocardial ischemia and diphtheritic myocarditis
   b) Nifedipine is not preferred in treatment of angina
   c) Beta blockers are contraindicated in variant angina
   d) Captopril is contraindicated in 2nd and 3rd trimester

سيتم عقد الإمتحان الشفوي يوم السبت الموافق٢٠١٦/٤/٩ في تمام الساعة التاسعة والنصف صباحا

Examination for Diplome Degree in: cardiology
Course Title: **CARD 7003**
Date:5-4-2016
Term: April 2016
Time Allowed:3 hours
Total Assessment Marks: 30

Tanta University
Faculty of Medicine
Department of:
Pathology

Questions Number	Marks
Q1: Discuss the pathology of cardiomyopathy	**10 marks**
Q2 :Discuss the pathogenesis and pathology of autoimmune heart diseases	**10 marks**
Q3 : Compare between carcinoma and sarcoma	**10 marks**

Chairman of department
Prof Dr. Afaf Alshafey

Tanta University
Faculty of Medicine
Department of Physiology
Examination for (Diploma Cardiology)
Course Title: Physiology
Total Assessment Marks:30

Course Code: CARD7001
Time Allowed: Physio + Bio Three Hours

Date:2/4/2016 Term : Final

All the questions are to be answered:-

Q1- Explain: Heart rate and its regulation. **(10 marks)**

Q2- Describe:

a) The intrinsic mechanism of blood coagulation. **(5 marks)**

b) Hypoxia and cyanosis. **(5 marks)**

Case study: A patient presents to the Emergency Department with intermittent chest pain. The ECG and blood tests are negative for myocardial infarction, but the echocardiogram shows thickening of the left ventricular muscle and narrowing of the aortic valve. Medications to lower afterload are prescribed. Which of the following values would provide the best measure of the effectiveness of the medication in lowering left ventricular afterload in this patient?

a. Left ventricular end-diastolic pressure.
b. Left ventricular mean systolic pressure.
c. Pulmonary capillary wedge pressure.
d. Total peripheral resistance.
e. Mean arterial blood pressure.

Explain your answer (2.5 marks)

Answer the following MCQ by the most probable one choice: In answer sheet (7.5 marks)

Q.1. Anaemia due to exposure of bone marrow to gamma radiation is called:

a. Pernicious anaemia.
b. Microcytic anaemia.
c. Blood loss anaemia.
d. Aplastic anaemia.

Q.2. In chronic stage of cardiac failure retention of fluid is caused by the following mechanism EXCEPT:

a. Release of A.D.H.
b. Release of aldosterone hormone.
c. Sodium and water retention.
d. Decrease of contractility of cardiac muscle.

Q.3. Stimulation of the high pressure baroreceptors is associated with:

a. An increase in the cardiac contractility
b. An increase in the heart rate
c. An increase in the discharge rate of vagal efferent cardiac neurons
d. A decrease in systemic blood pressure

Q.4. Diastolic pressure in the aorta is normally about:

a. 8-10mm Hg.
b. 30mm Hg.
c. 60mm Hg .
d. 80-90mm Hg.

Q.5. Visceral pain is characterized by all the following EXCEPT:

a. It may radiate.
b. It is poorly localized.
c. Its receptors are insensitive to distension.

LOOK IN THE BACK OF THIS PAGE

d. It may produce reflex contraction of nearby muscles.

Q.6. In anaemic hypoxia:

a. PO_2 in the blood is decreased.
b. % saturation of haemoglobin is decreased.
c. Amount of oxygen dissolved in plasma is decreased.
d. O2 content of the blood is decreased.

Q.7. In primary hyperthyroidism:

a. The thyroid gland may or may not be enlarged.
b. There is a low pulse pressure.
c. There is hypotonia.
d. There is elevated serum TSH.

Q.8. The increase in coronary blood flow during stimulation of sympathetic nerve is due to:

a. Cardiac acceleration.
b. More powerful contraction.
c. Increased myocardial metabolic activity.
d. All of the above.

Q.9 . In Addison's disease:

a. There is excessive secretion of GH.
b. A pituitary basophil adenoma may be present.
c. The patient is mentally subnormal.
d. There is excessive loss of Na+.

Q.10. In Cushing syndrome all the following feature are present EXCEPT:

a. Excess facial hair.
b. Osteoporosis.
c. Hypovolaemia.
d. Hyperglycaemia.

Q.11. Lungs which easily expand have:

a. Low compliance.
b. High compliance.
c. Low level of surfactant.
d. Large number of collagen fibres.

Q.12.In acute haemorrhage:

a. The main danger is due to loss of R.B.Cs.
b. If the lost blood is more than 30% blood transfusion is not indicated.
c. Blood coagulability decreases.
d. Water moves from extravascular to intravascular compartment.

Q.13. Hypovoluemic shock becomes progressive and irreversible due to the following causes EXCEPT:

a. Failure of vasomotor centre.
b. Cardiac depression.
c. Decreased body temperature.
d. Toxic myocardial factor (TMF) from ischemic tissue.

Q.14. Venous return to the heart is facilitated by:

a. The amount of blood filling the circulatory system.
b. The tone of sympathetic system on the veins.
c. The negativity of the thoracic pressure.
d. All of the above.

Q.15. Alveolar ventilation per minute is equal to:

a. 500 x 4 (ml/min).
b. 500 x 6 (ml/min).
c. 350 x 14(ml/min).
d. 350 x 6 (ml/min).

Oral exam will be on Sunday 10 April 2016 at 9 am in physiology department.

Tanta University	Cardiology Diploma Degree
Faculty of Medicine	Number of Questions: 40
Department of Cardiology	Time Allowed : 3 Hours
April 17 , 2016	Second Part, Second Paper MCQ

MCQ Cardiology

All Question should be Answered :

1. Which one of the following statements about mitral valve prolapse is incorrect:
   A. The degree of echocardiographic thickening of the mitral valve is related to long-term prognosis.
   B. Clinical auscultatory phenomena as well as echocardiographic documentation should be present for the diagnosis of mitral valve prolapse.
   C. Most symptoms in patients with the mitral valve prolapse syndrome are related to the severity of mitral regurgitation.
   D. Echocardiographic mitral valve prolapse may be seen in normal individuals after volume depletion.

2. Which of the following features would not be expected in a patient with severe tetralogy of Fallot?
   A. A soft absent P2.
   B. Aright ventricular lift.
   C. A loud systolic murmur though the ventricular septal defect.
   D. Central cyanosis.

3. The bicuspid aortic valve is associated with all but which one of the following diseases/complications?
   A. Coarctation of the aorta.
   B. Aortic dissection.
   C. Infective endocarditis.
   D. Myxomatous mitral valve.
   E. Ascending aortic aneurysm.

4. A 32-year-old woman with a history of IV drug abuse presents to the emergency department with fatigue and night sweats. Physical examination reveals a temperature of 38.4°C, scattered rhonchi and wheezes in the lung fields, tachycardia without heart murmurs, and needle tracks on her arms. Chest radiograph reveals several small infiltrates in the left lung field. A transthoracic echocardiogram is obtained and an apical four-chamber view showing the right-sided chambers is displayed in the following figure.

Each of the following statements about this case is true EXCEPT:

A. The vegetation displayed occupies the most common endocardial site of infection in IV drug abusers.
B. The site of involvement displayed is associated with a higher mortality than other endocardial sites.
C. The most likely associated organism is *Staphylococcus aureus.*
D. Gram-negative bacilli are a prominent cause of such lesions.
E. The majority of patients with this presentation are found to have pneumonia or multiple septic emboli on a chest radiograph.

5. Unequal upper extremity arterial pulsations commonly are found in each of the following disorders EXCEPT:
   A. Aortic Dissection.
   B. Takayasu disease.
   C. Supravalvular aortic stenosis.
   D. Subclavian artery atherosclerosis.
   E. Subvalvular aortic stenosis.

6. A 42-year-old man presents to the emergency department complaining of chest pain. In addition to myocardial ischemia, each of the following is a potential cause of chest discomfort EXCEPT:
   A. Esophageal spasm.
   B. Aortic dissection
   C. Herpes zoster
   D. Bronchiectasis
   E. Costochondritis

7. Which of the following conditions is likely to precipitate symptomatic heart failure in patients with previously compensated left ventricular contractile dysfunction?
   A. Atrial Fibrillation.
   B. Marked sinus bradycardia.
   C. Atrioventricular dissociation.
   D. Right ventricular apical pacing
   E. All of the above.

8. Catecholamines act to increase myocardial contractility through what type of beta-adrenergic receptor?
   A. Beta 2.
   B. Alpha 1.
   C. Beta 1.
   D. Beta 3.
   E. None of the above.

9. You hear a mid-diastolic rumble at the apex and a diastolic decrescendo-blowing murmur at the left sterna border in a patient with mild dyspnea on effort. The murmurs have been present for years.
   Which of these features suggests an Austin Flint murmur rather than organic mitral stenosis (MS)?

   A. Increased S1.
   B. AF.
   C. Presystolic accentuation of rumble.
   D. BP (by cuff) 160/50.
   E. Opening snap.

10. Commonest clinical manifestation of penetrating injury to the heart is:
   A. A-V Fistula.
   B. Heart Failure.
   C. Cardiac Tamponade.
   D. Intracardiac Shunts.

11. All are common sites of embolism from left atrial myxoma except:
   A. Coronary.
   B. Kidney.
   C. Brain.
   D. Lower extremity.

12. The complications of myocardial infarction are all except:
   A. Pulmonary embolism.
   B. Systemic embolism.
   C. Dissection of aorta.
   D. Ventricular fibrillation.

13. All are mechanical complications of myocardial infraction except:
   A. Mitral regurgitation.
   B. Ventricular septal defect.
   C. Rupture of free wall.
   D. Pericarditis.

14. All are manifestations of hypertensive heart disease except:
   A. LVH on ECG.
   B. Clinical LVH.
   C. LVF.
   D. A-V conduction defects.

15. Left ventricular hypertrophy in hypertension is related to:
    A. Diastolic blood pressure.
    B. Systolic blood pressure.
    C. Both of them.
    D. None of these.

16. Left ventricular hypertrophy more frequently occurs in hypertension in all following conditions except:
    A. Obesity.
    B. High dietary sodium.
    C. Diabetes mellitus.
    D. Coronary artery disease.

17. Thrombolysis is done in all the following except:
    A. ST elevation anterior myocardial infarction.
    B. ST elevation lateral myocardial infarction.
    C. ST depression anterior myocardial infarction.
    D. ST elevation posterior myocardial infarction.

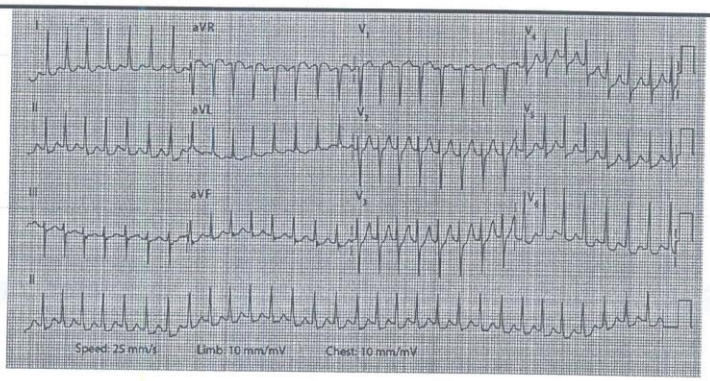
18. Only systolic hypertension is found in which of the following conditions:
    A. Hypothyroidism.
    B. Hyperthyroidism.
    C. Acromegaly.
    D. Hyperparathyroidism.

19. In elderly subjects secondary hypertension frequently occurs due to:
    A. Coarctation of aorta.
    B. Secondary hyper aldosteronism.
    C. Secondary renal artery stenosis.
    D. Primary hyperaldosteronism.

20. All the following situations favour ACE inhibitors as first choice in hypertension except:
    A. Type 2 DM.
    B. Gout.
    C. Hyperlipidemia.
    D. Perioperative hypertension.

21. Which antihypertensive is not recommended as first line drug?
    A. Diuretic.
    B. Ca-blocker.
    C. α-blocker.
    D. ACE inhibitor.

22. A 36-year-old asthmatic enters the ER with palpitations and the ECG shown is obtained. He is alert. BP is 100/60 mmHg. Weight is 70 kg. He complains of chest pain and weakness. He gives no history of previous arrhythmias. He takes large doses of theophylline, which has reduced the frequency of asthma attacks. On exam, he has diffuse wheezing. The 12-lead ECG is shown.



Among the following initial therapeutic approaches, which is the most appropriate?

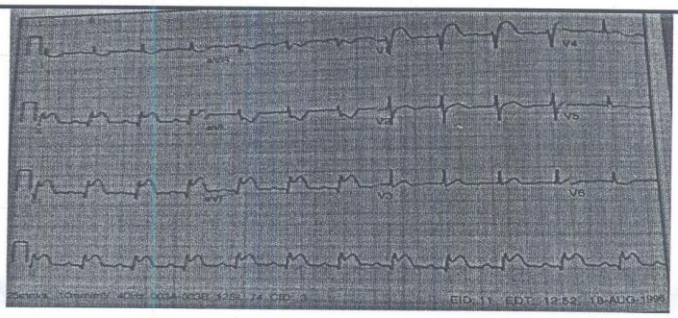
A. Verapamil, 10 mg intravenously over one minute.
B. Esmolol, 35 mg intravenously over 10 minutes.
C. Adenosine, 6 mg intravenously rapidly.
D. Procainamide, 10 mg/kg intravenously at 20 mg/min.
E. Digoxin, 0.50 mg intravenously.

23. A 52-year-old woman goes into acute pulmonary edema after an auto accident. She has a mild concussion and bruises on her upper body. ECG shows sinus tachycardia and nonspecific ST-T wave changes. Physical exam shows BP 123/72, pulse 110 regular, diffuse pulmonary rales, a grade 2 early systolic murmur, and a third heart sound.

What is the most likely diagnosis?

A. Ruptured papillary muscle.
B. AMI.
C. Cardiac contusion.
D. Noncardiogenic pulmonary edema.
E. Pulmonary Contusion.

24. A 58-year-old man was admitted to the CCU from the ER. His BP was 85/50. The jugular veins were distended to 10 cm at 30-degree elevation. The 12-lead ECG is shown.



Which of the following would be your initial treatment?

A. Pericardiocentesis.
B. Place a catheter or hemodynamic monitoring.
C. Assisst circulation with balloon pumping.
D. Start rapid IV infusion of fluid.
E. Nitroglycerin infusion.

25. A 45-year-old woman presents with ongoing chest pain. Immediate observations reveal BP 140/80 mmHg, heart rate 90 bpm, and saturations 99% on room air.

What should you do next?

A. Administer oxygen.
B. Administer analgesia.
C. Give aspirin 300 mg.
D. Perform a 12-lead ECG.
E. Gain IV access.

26. A 55-year-old obese woman with type 2 diabetes mellitus is found to have BP reading of 140 – 160 mmHg/ 90 – 99 mmHg during frequent routine visits. She has no complaints. She monitors her blood sugars, which range from 80-130 on an oral hypoglycemic agent, her only medications besides aspirin 81 mg per day. She is a nonsmoker on a low fat, low cholesterol diet, but has not been able to lose weight. Her total cholesterol = 212 mg/dl, HDL-C = 39 mg/dl, triglycerides = 265 mg/dl. All other laboratory values are within normal limits except or a trace proteinuria.

What is the most appropriate antihypertensive drug class for this patient?

A. Diuretics.
B. Beta-blockers.
C. Calcium antagonists.
D. ACE inhibitors.
E. Alpha-blocker.

27. Adenosine may terminate all of the following tachycardias except:
    A. Atrial tachycardia.
    B. AV nodal re-entrant tachycardia.
    C. Atrial flutter.
    D. Av re-entrant tachycardia.
    E. Antidromic tachycardia.

28. Which of the following statements about heart failure is true?
    A. It is a clinical syndrome.
    B. It can be caused by any form of heart disease.
    C. It is diagnosed primarily by history and physical exam.
    D. All of the statements are true.

29. The principal features of heart failure include all of the following except:
    A. Activation of the renin-angiotensin-aldosterone system (RAAS) and sympathetic nervous system (SNS).
    B. Left ventricular (LV) remodeling.
    C. The ability to mount a reflex tachycardia.
    D. Downregulation of β-adrenergic receptors.

30. All of the following neurohormones are associated with vasoconstriction, cell growth, hypertrophy, and sodium retention except:
    A. Angiotensin-II (Ang-II).
    B. Norepinephrine.
    C. Brain natriuretic peptide.
    D. Endothelin.
    E. Arginine vasopressin.

31. A 46-year-old female is found to have an abnormal EKG at the time of a routine physical. She denies any symptoms, and has a normal physical examination. She has an echocardiogram performed that demonstrates an LVEF of 30%. A coronary angiogram is performed and is normal. She is diagnosed with a non-ischemic-dilated cardiomyopathy. Based on the information provided, which of the following agents should be added to her medical regimen?
    A. Eplerenone.
    B. Carvedilol.
    C. Nitroglycerin.
    D. Furosemide.
    E. Warfarin.

32. A 56-year-old male with a history of ischemic cardiomyopathy and EF of 10%, blood type 0 is transferred to your center. He is on milrinoneat 0.25 μg/kg/min, furosemide at 1O mg/h, and lisinopril 2.5 mg. On examination, he is tachypneic, BP 88/40 mmHg, HR 104, lungs with crackles, JVP of 12, audible S3. Labs noted for Na 1 33, creatinine of 2.3, AST 56, and albumin 3.9. Social history notable for 1 PPD. The most appropriate therapy at this time is:
    A. Initiate carvedilol 6.25 mg BID.
    B. Add digoxin 250 μg daily.

C. Left ventricular assist device (LVAD) implantation as destination therapy (DT).
D. Urgent listing for heart transplant.

33. Which of the following is the most common symptom associated with diastolic heart failure?
    A. Chest pain.
    B. Paroxysmal nocturnal dyspnea.
    C. Exertional dyspnea.
    D. Dyspnea at rest.

34. Echocardiography is the primary clinical modality for diagnosing HCM. Which of the following findings is (are) commonly seen in HCM?
    A. A septum > 1 5 mm.
    B. Preclosure of the aortic valve.
    C. Anterior displacement of the papillary muscles.
    D. Elongated mitral leaflets.
    E. All of the choices.

35. After a long automobile trip, a 52-year-old man presents with dyspnea and left hemiparesis. A ventilation perfusion lung scan shows multiple small perfusion defects in both lungs. Doppler studies show deep venous thrombus in the left leg. TEE shows a PFO.
    What would be the best treatment of this patient?

    A. Pulmonary thrombectomy.
    B. Inferior vena cava filter.
    C. Thrombolytic therapy.
    D. IV heparin, then warfarin.
    E. Surgery to close the septal defect.

36. Mitral valve regurgitation is not associated with which of the following?
    A. Heart failure.
    B. Atrial fibrillation (AF).
    C. Stroke.
    D. Pulmonary hypertension.
    E. Increased pulse pressure.

37. What is the most common etiology of tricuspid regurgitation (TR)?
    A. Rheumatic disease.
    B. Prolapse or flail.
    C. Trauma.
    D. Carcinoid.
    E. Left-sided heart failure.

38. A 19-year-old basketball player is brought to the emergency department after he collapsed on the court. He received bystander cardiopulmonary resuscitation and was apparently defibrillated using an automatic external defibrillator (AED).

All of the following abnormalities should be part of the differential diagnosis for this young man with the exception of:

A. Anomalous origin of the coronary arteries (from opposite cusps).
B. Hypertrophic cardiomyopathy.
C. Congenitally prolonged QT syndrome.
D. ASD.
E. Arrhythmogenic right ventricular dysplasia.

39. In which of the following diseases is pregnancy difficult, but not highly risky to the mother and fetus?

A. Eisenmenger`s syndrome.
B. Primary pulmonary hypertension.
C. Mitral prolapse with significant mitral regurgitation.
D. Prior peripartum cardiomyopathy with heart failure.
E. The Marfan syndrome with dilated aortic root.

40. Which of the following patients would meet criteria for AVR?

A. A 70-year-old woman undergoing CABG with normal left ventricular ejection fraction (LVEF) and Pk/Mn AV gradients of 45/25 mmHg.
B. A 35-year-old man with bicuspid aortic valve and asymptomatic severe AI, normal LV systolic function, and LVID s 6.0 cm.
C. A 75-year-old asymptomatic man with AVA 0.8 cm2, Pk/Mn AV gradients 80/50 mmHg, normal LV function, and moderate concentric left ventricular hypertrophy (LVH).
D. A and B.
E. All of the choices.

Good luck

TANTA UNIVERSTY---------- Internal Medicine Exam
FACULTY OF MEDICINE ---------- Diploma degree of cardiology
INTERPNAL MEDICINE DEPARTMENT---------- ----NO. OF QUESTIONS: 2
4/4/, 2016 ------ ---------- Time: 3

All Questions must be answered :

1- Discuss acute complications of DM.

2- Diagnostic criteria of systemic lupus erythematosus.

3- Management of idiopathic thrombocytopenia.

Good Luck
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