

First part MD cardiothoracic surgery

Anatomy

Discuss:

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|--|------------|
| 1- Anatomy of the superior Mediastinum | (40 marks) |
| 2- Anatomy of the conduction system of the heart | (30 marks) |
| 3- Anatomy of the radial artery | (30 marks) |

Good luck



Tanta University
Faculty of Medicine
Department of Cardiology
9-10-2016

Paper 1 Cardiology
MD Cardio.
Number of questions:5
Time : 3 hours

Answer all questions

- 1) Microparticles as novel biomarkers and therapeutic targets in coronary heart disease.**
 - 2) Dysfunctional HDL and atherosclerotic cardiovascular disease.**
 - 3) Management of hypertension in chronic kidney disease.**
 - 4) Newborn screening for congenital heart disease.**
 - 5) Testosterone and Cardiovascular Disease.**
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*Tanta University
Faculty of Medicine*

*October 2016
Time allowed : 3 hour*

MD cardiothoracic Surgery

(paper I) cardiac surgery

Discuss the following:

- 1- Management of calcific and congenital small aortic annulus (40 marks)
- 2- Biological valves in aortic position (30 marks)
- 3- CABG in poor LV function (30 marks)

Good luck

MD cardiothoracic Surgery
(Paper IV) Anatomy and Pathology

Anatomy

Discuss:

- 1- Anatomy of (25 marks)
 - a. The diaphragm
 - b. Femoral triangle
- 2- Anatomy of the aortic root including aortic valve and LVOT (25 marks)

Pathology

Discuss :

- 3- Pathology of Tetralogy of Fallot including pulmonary artery pathology (25 marks)
- 4- Surgical pathology of pleural tuberculosis (25 marks)

Good luck



Tanta University
Faculty of Medicine
Department of Cardiology
18-10-2016

Physiology
MD Cardio.
Number of questions:5
Time : 1.5 hours

Answer all questions

- 1) Myocardial oxygen consumption.**
 - 2) Endothelial cell function.**
 - 3) Myocardial wall stress.**
 - 4) Coronary flow reserve.**
 - 5) Coagulation system.**
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Tanta University
Faculty of Medicine
Department of Cardiology
18-10-2016

Anatomy
MD Cardio.
Number of questions:5
Time : 1.5 hours

Answer all questions

- 1) The pericardium.**
 - 2) The surface markings of the heart.**
 - 3) The major arteries of the head and neck.**
 - 4) Anatomy of the cardiac conduction system.**
 - 5) The femoral triangle.**
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Tanta University
Faculty of Medicine
Department of physiology

Examination for (MSC Cardiology)

Course code: CARD8001

Course title: Physiology

Time allowed:

Total assessment marks: 30

Physio +Bio

Date: 1/10/2016

Term: Final

Three hours

All the questions are to be answered:

1- Discuss: Factors maintaining arterial blood pressure and physiological basis of hypertension.

(10 marks)

2- Give an account on :

a. Sympathetic innervations to chest viscera and its functions.

(10 marks)

b. Lung capacities with special reference to forced expiratory volume 1

(FEV1). (10 marks)

إمتحان الشفهي يوم الأربعاء الموافق 10/12/2016 في قسم الفسيولوجي الساعة الثامنة صباحا

Tanta University
Faculty Of Medicine
Department of Medical Biochemistry
First Part Exam.

1-10-2016

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Cardiology M.S. & Diploma Exam.

All questions are to be answered:

1- write short notes on :

a) CPK

b) LDH

2- Steps of cholesterol biosynthesis

___ Good Luck

Tanta University
Faculty of Medicine
Internal Medicine Exam
Master cardiology.
Date :3/10/ 2016.
TIME ALLOWED: 2h

Total (20 marks)



All Questions to be answered :

1- Causes, clinical manifestations of COPD. (15 Marks)

2- Causes and clinical manifestations and treatment of lower GIT bleeding.

(15 Marks)

3- Treatment of type 2 DM

(15 Marks)

4- Causes and clinical manifestations and treatment of iron deficiency anemia.

(15 Marks)

Good Luck

الامتحان الشفوى والعملى يوم الاثنين ٣١ - ١٠ الساعة الثامنة صباحا بقسم الامراض الباطنة.



Tanta University

MCQs Cardiology

Faculty of Medicine

MD Cardio.

Department of Cardiology

Number of questions:50

13-10-2016

Time : 3 hours

1-All of the following statements about ventricular fibrillation are true except

- A. Ninety to ninety-five percent of individuals with ventricular fibrillation reveal underlying structural heart disease.
- B. No structural heart disease can be identified in 55% to 60% of patients.
- C. According to the results of the Cardiac Arrest Survivors With Preserved Ejection Fraction Registry (CASPER) among patients with normal left ventricular function, idiopathic ventricular fibrillation (IVF) was diagnosed in 44% of patients with ventricular fibrillation without structural heart disease.
- D. The diagnosis of idiopathic ventricular fibrillation (IVF) is based on the exclusion of currently known structural and primary electrical heart diseases following a complete noninvasive, invasive, and genetic workup.

2-All of the following are effective in the management of reflex syncope except

- A. Life style modifications like avoiding triggers
- B. Physical counterpressure maneuvers
- C. Beta blockers
- D. Cardiac pacing in patients with cardioinhibitory reflex syncope

3-All of the following statements about Arrhythmogenic Right Ventricular

Dysplasia/Cardiomyopathy are correct except

- A. Pathogenic mutations can be identified in 50% of patients

- B. The clinical presentation is between 2nd to 5th decade of life
- C. Left dominant arrhythmogenic cardiomyopathy most commonly involves apical septal segment of left ventricle
- D. Left-dominant disease is more commonly seen in patients with desmoplakin mutations

4-All of the following statements about accessory pathways (AP) are correct except

- A. Majority of APs conduct both antegradely and retrogradely
- B. Around 50% of patients with preexcitation have bypass tracts that conduct only antegradely.
- C. Retrograde only conduction is more common than antegrade only conduction via APs
- D. In around 10% of patients spontaneous disappearance of preexcitation may be seen

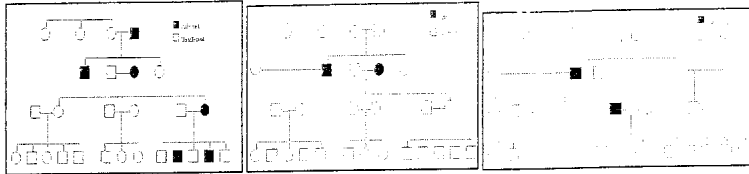
5-All of the following statements about atrial flutter – fibrillation in WPW syndrome are correct except

- A. Atrial fibrillation can precipitate ventricular fibrillation in patients with accessory pathways
- B. The incidence of atrial flutter and/or fibrillation appears to be higher in patients with A-V bypass tracts than in the normal population
- C. Prevalence of atrial fibrillation is same in patients with manifest preexcitation and those with concealed preexcitation
- D. Atrial flutter-fibrillation may be the presenting arrhythmia in 5% to 10% of patients with A-V bypass tracts

6-All of the following arrhythmias are usually seen in structurally normal heart except

- A. Right ventricular outflow tract ventricular tachycardia
- B. Fascicular reentry ventricular tachycardia
- C. Bundle branch reentry ventricular tachycardia
- D. Catecholaminergic polymorphic ventricular tachycardia

7-An 18 year old male basketball player passes out during a game. An echocardiogram reveals that he has hypertrophic obstructive cardiomyopathy. Which of the following patterns of inheritance are most consistent with HOCM? A B C



8-The fetal left atrium is mainly derived from the

- A. sinus venosus
- B. right pulmonary vein
- C. primitive pulmonary vein
- D. primitive atrium
- E. sinus venarum

9-The fetal right atrium is mainly derived from the

- A. primitive pulmonary vein
- B. primitive atrium
- C. sinus venarum
- D. sinus venosus
- E. right pulmonary vein

10-LV pressure-volume curves are used to define LV passive diastolic properties. A shift of the pressure-volume curve to the left indicates:

- a. A decrease in LV operating chamber compliance
- b. An increase in LV operating chamber compliance
- c. No changes in operating chamber compliance
- d. Curves do not shift in most cardiac disease states

11-Rotational atherectomy is contraindicated in which settings:

- a. Bifurcation lesions
- b. Saphenous vein grafts

- c. Heavily calcified lesions
- d. Insulin-dependent diabetes

12-A 32-year-old woman has known MS. She is able to exercise daily for 45 min without symptoms. Six months ago she had a TTE that showed a mean gradient of 5mmHg, MVA of 1.6 cm², and a PAP of 30 mmHg. She wants to get pregnant. What would you recommend?

- a. Repeat TTE
- b. TEE
- c. Balloon valvuloplasty
- d. MV replacement
- e. Proceed with pregnancy with beta blockade as necessary

13-The most common cause of IE in IV drug users is:

- a. Viridans streptococci
- b. Enterococcus faecium
- c. Staphylococcus aureus
- d. Candida parapsilosis
- e. Kingella kingae

14-Dynamic maneuvers are performed during clinical examination. The murmur decreases after amyl nitrate and is unchanged after a post-extrasystolic beat. Which of the following is the most likely diagnosis?

- a. Aortic stenosis
- b. VSD
- c. MR
- d. Aortic insufficiency
- e. HCM with outflow obstruction

15-A "biphasic" response of a segment or segments to dobutamine during a stress echocardiogram is interpreted to mean:

- b. Infarction in the territory supported by that artery
- c. Normal response to dobutamine
- d. Ischemia and viability in the territory supported by that artery
- e. Indeterminate result

16-A patient with which of the following pacing devices can be safely placed in an MRI scanner?

- a. DDD, not pacemaker-dependent
- b. VVI, not pacemaker-dependent
- c. ICD
- d. None of the above
- e. All of the above

17-Which of the following echocardiographic parameters does not predict adverse outcomes in patients with pulmonary arterial HTN?

- a. Presence of a pericardial effusion
- b. An elevated RV index of myocardial performance or Tei index
- c. IVC dilatation
- d. Diastolic septal shift
- e. Maximum TR velocity

18-Which of the following is not a high-risk finding in stress myocardial perfusion imaging?

- a. LV cavity dilatation following stress
- b. An increase in thallium lung uptake with stress
- c. A focal mild to moderate fixed defect in the apex
- d. A defect size greater than 25% of the LV myocardium
- e. A Duke treadmill score of 16 with a mild anterior perfusion defect with stress.

19- The following drugs are associated with the following teratogenic effects, except:

- a. Lithium and Ebstein's anomaly

- c. ACE inhibitors and oligohydramnios
- d. Heparin and osteoporosis
- e. Beta blockers and growth retardation

20-Grapefruit juice increases the bioavailability of which of the following drug(s)?

- a. Simvastatin
- b. Nifedipine
- c. Sildenafil
- d. Cyclosporin A
- e. All of the above

21- Which ONE of the following patients has the HIGHEST calculated creatinine clearance?

- a) A 65-year-old, 65kg man with a creatinine of 100micromol/L
- b) An 85-year-old, 65kg woman with a creatinine of 100micromol/L
- c) A 75-year-old, 55kg woman with a creatinine of 100micromol/L
- d) An 85-year-old, 55kg man with a creatinine of 100micromol/L

22-Which ONE of the following conditions is LEAST likely to increase the risk of lactic acidosis in a patient taking metformin?

- a) Heart failure
- b) Dehydration
- c) Renal failure
- d) Respiratory failure
- e) Rheumatoid arthritis

23-Renal artery embolism is characterized by

- (a) Flank pain
- (b) Haematuria
- (c) Hypertension

24-Left atrial myxoma is characterized by all except

- (a) Marked constitutional symptoms
- (b) History of syncope
- (c) Large left atrium
- (d) Tumour plop

25-Most common cause of cardiac death in chronic renal failure is

- (a) Heart failure
- (b) Myocardial infarction
- (c) Pericardial effusion
- (d) Constrictive pericarditis

26-Hamman's sign has all the following features except

- (a) Indicates air in mediastinum
- (b) Commonly occurs following cardiac surgery
- (c) Related to both heart beat and respiration
- (d) It is short ejection murmur

27-Most distinctive cardiac abnormality in facioscapulohumeral myopathy is

- (a) Valve regurgitation
- (b) Coronary artery disease
- (c) Myocardial infarction
- (d) Atrial paralysis

28- Which cardiac manifestation is rare in myxedema?

- (a) Bradycardia
- (b) Pericardial effusion
- (c) Hypertension

29-The following are observational studies except

- (a) The Framingham study
- (b) The PROCAM study
- (c) The seven countries study
- (d) Physician's health study

30-During sleep the normal lowest heart rate is

- (a) 70/min
- (b) 60/min
- (c) 50/min
- (d) 35-40/min

31-Commonest clinical manifestation of penetrating injury to heart is

- (a) A-V fistula
- (b) Heart failure
- (c) Cardiac tamponade
- (d) Intracardiac shunts

32-Most frequent cardiac disease in infant born to mother with Systemic Lupus is

- (a) ASD
- (b) VSD
- (c) Aortic Stenosis
- (d) Complete Heart Block

33-Which tricuspid leaflet is least mobile?

- (a) Anterior
- (b) Posterior
- (c) Septal
- (d) None of these

34-Osler's node has all of the following features except

- (a) Present on distal pad of fingers
- (b) Are non tender
- (c) Reddish purple
- (d) Tender

35-Idiopathic dilatation of pulmonary artery has all the following features except

- (a) Systolic murmur in pulmonary area
- (b) Right ventricular hypertrophy
- (c) Pulmonary ejection sound
- (d) Mid systolic murmur in pulmonary area

36-Syncope occurring with arm exercise is found in

- (a) Atrial myxoma
- (b) Orthostatic hypotension
- (c) Vasovagal syncope
- (d) Subclavian steal

37-Collapsing pulse in cyanotic congenital heartdisease is found in all the following except

- (a) Fallots with bronchopulmonary collaterals
- (b) Truncus arteriosus
- (c) Pulmonary atresia
- (d) Ebstein anomaly

38-Which is best technique to know the vulnerability of plaque?

- (a) Angioscopy
- (b) Intravascular ultrasound
- (c) Optical coherence topography

39-Reduced HR variability in myocardial infarction is indicative of all except

- (a) Severe coronary artery disease
- (b) Coronary artery disease with LV dysfunction
- (c) Propensity to arrhythmia
- (d) Strong predictor of mortality

40-Most common ECG abnormality in stroke patients is

- (a) QT prolongation
- (b) Ischaemic changes
- (c) 'V' wave
- (d) ST elevation

41-A patient is diagnosed with long QT syndrome and has been commenced on beta-blockers with no symptoms and a QTc of 470 ms. No genetic testing has been performed. She has a 7-year-old daughter and asks about the risks for her child. What is it appropriate to tell her?

- A. The patient should be considered for genetic testing
- B. The patient's daughter should be considered for genetic testing
- C. An ICD is likely to be the safest option
- D. If her daughter has a normal ECG she can be reassured that she does not have long QT syndrome
- E. No further investigation is necessary

42-One of your patients has small vessel coronary disease which is not suitable for revascularization. They are still experiencing class 2 angina particularly in the evening despite bisoprolol 10 mg od. Blood pressure is 135/90 mmHg. What would you recommend next?

- A. Amlodipine
- B. Ivabradine
- C. Nicorandil
- D. Bisoprolol 5 mg bd
- E. Ranolazine

42-A patient arrives directly in the catheterization laboratory for primary angioplasty. They volunteer a previous serious allergic reaction to heparin called 'HIT' as you are consenting them. What would be your anticoagulation strategy?

- A. A single administration of unfractionated heparin in this situation should be safe
- B. Avoid all anticoagulants as a precaution and complete the procedure with Gb2b/3a cover
- C. Bivalarudin is safe and effective in this situation
- D. A single administration of fondaparinux in this situation should be safe and effective
- E. There is a risk with all anticoagulants in this situation, and so the balance of benefit is shifted to thrombolysis over primary angioplasty

43-You review a patient in the CCU who was admitted earlier with a large anterior myocardial infarction treated with primary angioplasty. He has no bystander disease but the presentation was late. The echocardiogram shows severe LV impairment. There is pulmonary oedema which you have been treating with furosemide boluses and continuous positive airway pressure non-invasive ventilation. Blood pressure is now 85/50 mmHg and urine output in the last hour is 10 mL. Oxygen saturations are maintained at 94% with high-flow oxygen. He remains alert. What treatment should you consider next?

- A. Call an anaesthetist to consider ventilation
- B. Start a dopamine infusion
- C. Give a fluid challenge
- D. Start a nitrate infusion
- E. Start a furosemide infusion

44-You are asked to review an echocardiogram of a 82-year-old woman who has both severe aortic stenosis (AS) and severe mitral regurgitation (MR). All the following statements are true in patients with ombined or multiple valve lesions except:

- A. Associated MR may lead to underestimation of the severity of AS
- B. Severe AS may lead to overestimation of coexisting MR
- C. Significant aortic regurgitation lengthens the Doppler PHT in mitral stenosis
- D. The presence of significant AR may overestimate the gradient across the aortic valve
- E. Planimetry should be utilized

45-Which one of the following is a predictor of poor outcome in patients with infective endocarditis?

- A. Insulin-dependent diabetes mellitus
- B. Renal failure
- C. Echocardiographic evidence of peri-annular complications
- D. Staphylococcus aureus in blood cultures
- E. All the above

46-Which one of the following statements regarding the Fontan operation is correct?

- A. It is a palliative procedure in patients with congenital cyanotic heart disease when a biventricular repair is not possible; the result is univentricular physiology with diversion of systemic venous return to the pulmonary arteries
- B. Patients should have a near-normal life expectancy as chronic cyanosis is corrected and the pulmonary vasculature is protected from systemic pressures
- C. It is one potential solution for transposition of the great arteries; systemic venous blood is diverted to the subpulmonary ventricle via an atrial baffle and pulmonary venous return is redirected to the systemic ventricle
- D. It is a corrective procedure for patients with functionally univentricular cyanotic heart disease; the end result is a biventricular repair
- E. It is a palliative procedure in patients with congenital cyanotic heart disease when a biventricular repair is not possible; the result is univentricular physiology with a systemic arterial to pulmonary shunt to increase pulmonary blood flow

47-In current regulations, which of the following drugs is absolutely contraindicated in pregnancy?

- A. Atenolol
- B. Simvastatin
- C. Aspirin
- D. Amlodipine
- E. Clopidogrel

48-With regard to the pathogenesis of aortic aneurysm, which one of the following is the most important factor?

- A. Smoking
- B. Hypertension

- C. Cystic medial necrosis
- D. Type 2 diabetes mellitus
- E. Presence of FBN 1 gene

49-According to Laplace's law, a doubling of the radius results in:

- A. Four times the circumferential wall stress
- B. Eight times the circumferential wall stress
- C. Twice the circumferential wall stress
- D. Half the circumferential wall stress
- E. Makes no difference to the circumferential wall stress as long as the pressure reduces by 20 mmHg

50-A 56-year-old woman is admitted for elective total knee replacement. She has severely limited mobility and surgery is expected to improve this dramatically. She is known to have hypercholesterolaemia and hypertension. In addition to simvastatin and ramipril, she takes atenolol. In preparation for her surgery she is nil by mouth from midnight. She does not take any of her medications the following morning. Whilst waiting to transfer to surgery she develops chest pain, and an assessment by the ward doctor reveals that she has inferior ST depression on ECG. Subsequent serum troponin measurement is positive. Which one of the following therapies do you recommend?

- A. Restart her normal medication and proceed to surgery as planned
 - B. Thrombolysis and heparin infusion
 - C. Urgent angiography and balloon angioplasty
 - D. Urgent angiography and bare metal stent angioplasty
 - E. Urgent angiography and drug-eluting stent angioplasty
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