

Benha University



Faculty of Medicine



Master degree of Chest diseases

Int. med. Course exam. 14-6-2012

Time allowed 3 hour

Number of papers: 2

Model Answer

1 – 4 cardiac causes of chest pain:

i- Angina

retrosternal pain , radiating to neck,jaw,shoulders or epigastrium ; pressure , squeezing,tightness,heaviness or burning inchch; less than 2 to 10 min in duration , aggravated by exertion , cold exposure, emotional strss , relieved by rest or nitrates ; associated with dyspnea, S4 , murmur of papillary muscle dysfunction in pain.

ii- MI

same as angina but more sever , varaible in duration usually >30 min, not relieved by rest or nitrate, associated with dyspnea, vomiting, diaphoresis

iii- pericarditis

localized pain left to sternum , may radiate to neck or lt.shoulder, sharp stabbing, lasts many hours to days, aggravated by deep breathing, rotating chest or supine position , relieved by leaning forward, associated with friction rub

iv- Aortic dissection

anterior chest , may radiate to neck and interscapular region, tearing knifelike, sudden onset, usually occurs in setting of HTN , associated with AI murmur, asymmetrical pulse and BP, and neurological deficits

2 – Rheumatological complications on the lung (5 sequale):

i- ILD (asymptomatic early,dry cough,progressive SOB,cyanosis,clubbing,cor pulmonale,basal insp. Crepitations)

0- non-specific interstitial pneumonitis NSIP (most frequent)

0- usual interstitial pneumonitis UIP (unresponsive to corticosteroids)

0- desquamative interstitial pneumonitis DIP

0- diffuse alveolar damage DAD

0- Lymphocytic interstitial pneumonitis LIP

0- Organizing pneumonia (BOOP)

ii- Obliterative bronchiolitis

more in RF +ve RA, dense FT in terminal bronchioles , spared alveoli and terminal bronchioles , air flow obstruction , decreased FEV1 , ttt by steroids

iii- alveolar hemorrhage due to capillaritis presented with SOB and hemoptysis

iv- Aspiration pneumonia

In SS due to dilated fibrotic oesophagus

In DM / PM due to weakness of pharyngeal muscles

v- Malignancy

Increased prevalence in DM / PM

Lung cancer due to fibrosis as in SS

Lymphoma as in LIP and Sjogren's syndrome.

3 – Diagnostic tests to assess patient who bleeds (5 tests):

i- platelets count

low in thrombocytopenia

ii- bleeding time , PFA-100

increased BT or increased PFA-100in platelet dysfunction

normal BT or normal PFA-100 in vascular disorders, dysfibrinogenemia , factor VIII deficiency

iii- PT(Prothrombin time)

decrease VII, decreased V in liver disease

decreased VII, normal V in vit.K def. , warfarin, F VII def.

iv- PTT(Partial thromboplastin time)

corrects with mixing study in FVIII,IX,XI def.(hemophilia ABC)

not correct with mixing study in circulating anticoagulant (lupus anticoagulant , heparin)

v- thrombin time : increased in dysfibrinogenemia

4 – 5 sequale of thyroid dysfunction on the heart:

A. hyperthyroidism

- palpitation , tachycardia
- exertional dyspnea
- wide pulse pressure
- increased resting heart rate , contractility and cardiac output
- high output heart failure
- atrial fibrillation
- myocardial ischemia especially in patients with underlying coronary artery disease due to increased myocardial O₂ demand.
- pulmonary hypertension and isolated Rt. Ventricular failure

B. hypothyroidism

- bradycardia
- hypertension
- narrow pulse pressure
- accelerated atherosclerosis and coronary artery disease
- may prolong QT interval predisposing to ventricular irritability

4 – thyroid disorders and CVS:

I – effect of thyroid on CVS

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II – effect of CVS on thyroid

A. congestive heart failure may lead to decreased serum T₃

this is due to impaired hepatic conversion of T₄ to biologically active T₃ by 5' monodeiodination , the decreased T₃ is proportional to severity of heart disease as assessed by NYHA functional classification

B. Amiodarone used as anti-arrhythmic drug

- amiodarone induced hypothyroidism (5-25%)

due to high iodine content that inhibits thyroid gland function , also amiodarone inhibits conversion of T₄ to T₃ by inhibiting 5' deiodinase activity.

- amiodarone induced hyperthyroidism(2-10%)

type I : occur in patients with preexisting thyroid disease and goiter and in areas where iodine intake is low

type1: due to inflammatory process which increases thyroid hormone release from previously normal thyroid gland

5 – Describe briefly 3 types of comas in diabetic patients:

i- hypoglycemic coma

Effects Type 1 & 2 Diabetic

Secondary to Insulin or Oral Hypoglycemic Medication

Serum Glucose Levels Fall Below Normal Levels

Chch by neuroglycopenic and neurogenic manifestations

Ttt by glucose supplementation , glucagon

ii- DKA (Diabetic ketoacidosis)

common in type I DM (IDDM)

In an attempt to save the Heart and Brain, the body produces Ketone Bodies from fatty acids(Acetoacetate, Beta-hydroxybutyrate, And Acetone)

Excessive Ketones lead to Acidosis

Chch by nausea, vomiting, abdominal pain, polyuria, Kussmaul breathing , acetone odour of breath and hypovolemia

Ttt by fluids , insulin , correction of electrolytes and acidosis

iii-hyperglycemic hyperosmolar non-ketotic coma (HHNK)

Effects Type 2 Diabetics ,rare in type I

Prominent later in life

Elevated Blood Glucose lead to increases serum osmolarity

This results in Diuresis and Fluid Shift.

Increased Urination causes body wide depletion of Water and Electrolytes

No acidosis

6 – syncope (def., 4 causes):

Syncope is the transient loss of consciousness resulting from acute inadequate cerebral blood flow.

4 causes:

i- cardiac syncope (d.t low co)

- acute MI
- A.S
- massive pulmonary embolism
- ball and valve embolus
- cardiac tamponade
- Arrhythmias as Adams-Stokes attacks , marked tachycardia or bradycardia

ii- cerebra syncope :

- Vertebrobasilar TIA
- Basilar artery migraine
- Subclavian steal syndrome

iii- Orthostatic syncope (postural syncope)

- Autonomic neuropathy as in diabetics
- Hypovolemia
- Hyponatremia
- Pregnancy
- Lumbar sympathectomy
- Vasodilator drugs

iv- Hypoxic syncope

- High altitudes

- respiratory failure

7 – drug induced hepatitis (5 causes):

i- Acetaminophen causes acute fulminant hepatitis.

ii- Allopurinol , Amiodarone , NSAIDs, INH cause acute hepatitis

iii- chlorpromazine, erythromycine, anabolic steroids, clavulanic acid cause cholestatic hepatitis

iv- carbamazepine, phenytoin , sulphonamide cause mixed hepatitis (hepatocellular & cholestatic)

v- methyl dopa, nitrofurantoin , minocycline cause chronic hepatitis

8 – Fever with lymphadenopathy (5 causes):

i- Infections

In drainage area of infection (e.g., cervical adenopathy with pharyngitis)

Disseminated (e.g., mononucleosis, HIV infection, brucellosis, TB , histoplasmosis)

ii- Neoplastic

hematological (leukemia esp.lymphatic , lymphomas)

non-hematological : metastatic carcinoma , sarcoma

iii- immune

SLE , RA , Felty's syndrome , Still's disease

iv- Infiltrative disease ; Sarcoidosis

v- endocrinal : thyroiditis , Grave's disease

MCQ (10 marks):

All questions answered by (false) or (true):

1-The pain of myocardial ischemia:

- a) Is typically induced by exercise and relieved by rest.
- b) Radiates to the neck and jaw but not teeth.
- c) Rarely lasts longer than 10 seconds after resting.
- d) Is easily distinguished from esophageal pain.

2-In Infective endocarditis

- a) Streptococci and staphylococci account for over 80% of cases
- b) left heart valves are more frequently involved than right heart valves
- c) normal cardiac valves are not affected
- d) glomerulonephritis usually occurs due to immune complex disease

3 Platelets:

- a. Have a circulation lifespan of 10 hours in healthy subjects.
- b. Are produced and regulated under the control of thrombopoietins.
- c. Contain small nuclear remnants called Howell-Jolly bodies.
- d. Decrease in number in response to aspirin therapy.

2. 4- Hypochromic microcytic anaemia is a recognised finding in

- a. haemolytic anaemia
- b. primary sideroblastic anaemia
- c. hypothyroidism
- d. beta-thalassaemia

5-Causes of dysphagia include

- a) Cancer
- b) Cervical spondylosis
- c) Achalasia
- d) Post-corrosive

6-The following may be a cause of constipation

- a) Ignoring urge
- b) Antispasmodics
- c) Irritable bowel syndrome
- d) Thyrotoxicosis

7-The clinical features of autoimmune hepatitis include:

- a) Predominance of females aged 20-40 years.
- b) Acute onset simulating viral hepatitis in 25% of patients.
- c) Arthralgia, fever and amenorrhea.
- d) Spider telangiectasia and hepatosplenomegaly.

8-In patients with hepatic cirrhosis:

- a) Central cyanosis responds well to oxygen therapy.
- b) Increasing jaundice suggests progressive liver failure.
- c) The peripheral blood flow is typically reduced.
- d) The glomerular filtration rate is decreased.

9-Secondary diabetes is associated with:

- a) Thiazide diuretic therapy
- b) Haemochromatosis
- c) Primary hyperaldosteronism
- d) Pancreatic carcinoma

10-Microscopic haematuria would be an expected finding in:

- a) Urinary tract infection.

- b) Renal papillary necrosis.
- c) Membranous glomerulonephritis.
- d) Infective endocarditis.