

**Atherosclerosis angina , acute  
coronary syndrome  
and MI complications and  
treatment**

**MCQs**

- most common cause of death in HTN?

**Answer: MI**

- Previous MI patient with increase cholesterol level what is next step ?

**Answer: describe statin drug**

- Av node aw conduction abnormality following MI  
**right Coronary artery**

- Most common cause of death in hypertensive pts ?

**CVA , MI**

- hyperlipidemia , I think 9 mmol , unsure emoticon and has CVA without MI what is the management?!

**Simvastatin**

- most common cause of MI mortality >>

**ventricular arrhythmias**

- History of a man with retrosternal chest pain. ECG reveals ST segment depression in I and aVL, diagnosis:

a. Posterior MI

b. Inferior MI

**c. Lateral MI**

- 3 weeks after MI, a patient presented with chest pain. ECG showed elevated ST segment in anterior chest leads, diagnosis is:

a. Re-infarction

b. Pericarditis

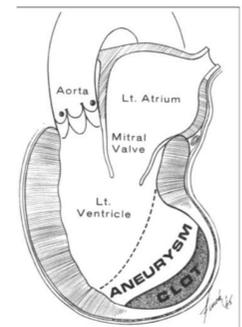
**c. Ventricular aneurysm with superimposed VT**

**Answer: C (Cause of persistent ST segment elevation is ventricular aneurysm)**

- Patient with history typical of MI. Found to have ST segment depression in leads aVF, V2, and V3. Pulmonary capillary wedge pressure is normal. Right ventricle pressure is 65/20. Right atrial pressure is 25/10. Neck veins are distended. Diagnosis is:

a. Mitral valve prolapse

**b. Right ventricular infarction ?**



• All the following increase survival in MI except:

- a. Heparin
- b. Antiplatelets
- c. Beta blockers
- d. Iv nitroglycerine ?**

• In acute MI< all of the following are true, except:

- a. Inf MI, St elevation in 1, 2, AVF
- b. Anteroseptal MI – ST segment elevation in V1-V2-V3
- c. In acute MI, thrombolytic therapy achieve 100% reperfusion arate.**
- d. Treatment of MI include morphine, coronary vasodilation, aspirin.
- e. Cardiac markers in acute MI, serial cardiac enzymes, like CPK, troponin

• ECG shows ST elevation in leads II, III, AVF, indicate infarction in ONE of the following

- a- anteroseptal MI
- b- anterolateral MI
- c- posterior MI
- d- inferior MI**
- e- subendocardial MI

• contraindication of thrombolytics in MI are the following except:

- a- Late MI more than 24 hours after MI
- b- Previous surgery before 3months
- c- Head trauma before 3 months
- d- Elevated ST segment MI**
- e- Haemorrhagic diseases

• Nitroglycerin administered sublingually may contribute to the relief of myocardial ischemic pain by each of the following mechanisms except?

- a. Coronary vasodilation
- b. Decreased venous pooling resulting in increased cardiac preload**
- c. Reduced systemic vascular resistance
- d. Reduced ventricular volume
- e. Reducing resistance in the coronary arteries

• the measurement used for re-infarction diagnosis : **CK-MB**

- The subendothelium is the most vulnerable segment of the heart from an ischemic standpoint. The major reason for this is?
  - a. The highest oxygen utilization is in the subendocardium
  - b. Coronary flow to the subendocardium occurs almost completely during diastole whereas other regions receive some flow during systole as well**
  - c. The subendocardium has a diminished aerobic capacity
  - d. There is less potential for collateralization to the subendocardium ??
  - e. The ratio of capillary to myocyte is less in the subendocardium
  
- Myocardial ischemia is an imbalance between O<sub>2</sub> supply and myocardial demand, all of the following are true except:
  - a. Obstruction of coronary arteries by atherosclerosis
  - b. Coronary artery spasm
  - c. Anemia
  - d. Thyrotoxicosis
  - e. Pericarditis**

Answer: E Conditions that may cause myocardial ischemia include Coronary artery disease (atherosclerosis). Atherosclerosis occurs when plaques made of cholesterol and other cellular waste products build up on your artery walls and restrict blood flow. Atherosclerosis of the heart arteries is called coronary artery disease and is the most common cause of myocardial ischemia.

Blood clot. The plaques that develop in atherosclerosis can rupture, causing a blood clot, which may lead to sudden, severe myocardial ischemia, resulting in a heart attack.

Coronary artery spasm. A coronary artery spasm is a brief, temporary tightening (contraction) of the muscles in the artery wall. This can narrow and briefly decrease or even prevent blood flow to part of the heart muscle. Coronary artery spasms are more common in people with risk factors for heart disease, such as high cholesterol and high blood pressure, but the spasms can happen in people who have no risk factors, too. Coronary artery spasms can also occur in people who have conditions that affect their immune systems, such as lupus.

Severe illnesses. Myocardial ischemia can occur when the metabolic demands of your heart increase or when blood pressure is very low due to infection, bleeding or other severe illness. Source: <http://www.mayoclinic.com/health/myocardial-ischemia/DS01179/DSECTION=causes>

- Modifiable risk factors for ischemic heart disease include all the following Except.
  - a- smoking
  - b- hypertension
  - c- hyperlipidaemia
  - d- age**
  - e- diabetes mellitus

- Cardiac risk factors for CNS ischemic stroke are all the followings except:
  - a- atrial fibrillation
  - b- Supraventricular tachycardia.
  - c- Myocardial infarction**
  - d-Left atrial myxoma.
  - e- Cardiomyopathy.
  
- Which of the following factors is most strongly associated with risk of sudden death in the first six months after myocardial infarction?
  - a. Ventricular ectopics**
  - b. Cigarette smoking
  - c. vessel coronary disease at angiography
  - d. Low left ventricular ejection fraction
  - e. High LDL (low density lipoprotein) cholesterol
  
- 57-year-old man comes to the emergency department with severe, central, crushing chest pain. By the time he arrives on the medical admissions unit he is pain-free. He had a myocardial infarction (MI) two years ago; additionally he has type 2 diabetes mellitus, hypertension and hypercholesterolaemia. His brother died of a MI at a similar age. His repeat prescriptions include aspirin, metformin, ramipril, amlodipine and atorvastatin. On examination he looks pale and sweaty. On auscultation he has vesicular breathing and normal heart sounds. He is overweight. His oxygen saturations are 98% on air; respiratory rate 14 breaths per minute; blood pressure 150/88 mmHg, heart rate 90 beats per minute. His blood sugar (BM) is 22.5. There are no ischemic changes on his ECG; however a 12 hour troponin is elevated. The admitting doctor has already given aspirin, clopidogrel and heparin. What is the next step in the management of this patient?
  - a. IV GTN infusion
  - b. 15L oxygen via non-rebreather mask
  - c. Primary PCI within 4 hours
  - d. Additional dose metformin
  - e. Angiography within 96 hours**
  
- ECG with ST elevation in lead 2, 3, avf : **right Ventricular infarction**
  
- A 60-year-old man has an inferior myocardial infarction; his heart rate is 45 /min. The artery most likely to be involved in this process is:
  - a- right coronary artery**
  - b- left main artery
  - c- left anterior descending artery
  - d- circumflex artery

• ONE of the following drugs reduces myocardial remodeling after acute myocardial infarction.

**a- ACE inhibitors**

b- digoxine

c- verapamil

d- furosemide (lasix)

e- hydralazine.

• Which ONE of the following drugs would be most appropriately used in treatment of patient with inferior myocardial infarction and has a heart rate of 40/minute .

**a- atropine**

b- digoxine

c- propranolol

d- calcium channel blockers

e- heparine

• All the following are early complications of acute myocardial infarction Except.

a- cardiogenic shock

b- heart block

c- ventricular fibrillation

**d- aneurismal dilatation of infarcted area**

e- sudden cardiac death

• The leading cause of early death in patients with acute myocardial infarction is

a-Rupture of the myocardial wall

b-Rupture of the septum

c-Rupture of the cordae tendinea leading to acute mitral regurgitation

**d-Ventricular arrhythmias**

e-Ventricular aneurysm

• Which of the following is associated with ST elevation on the ECG?

a-Right ventricular hypertrophy

b-Left ventricular hypertrophy

c-Digoxin effect

d-Subendocardial infarction

**e-Early in repolarization after angina attack**

• Xanthomas are yellowish skin lesions that occur in one of the following :

a-Rheumatic heart disease

b-Hyperthyroidism

**c-Hyperlipidemia**

d-Myocardial infarction

e-Scar after a trauma

• A 60-year-old man has an inferior myocardial infarction; his heart rate is 45 /min. The artery most likely to be involved in this process is:

**A- right coronary artery**

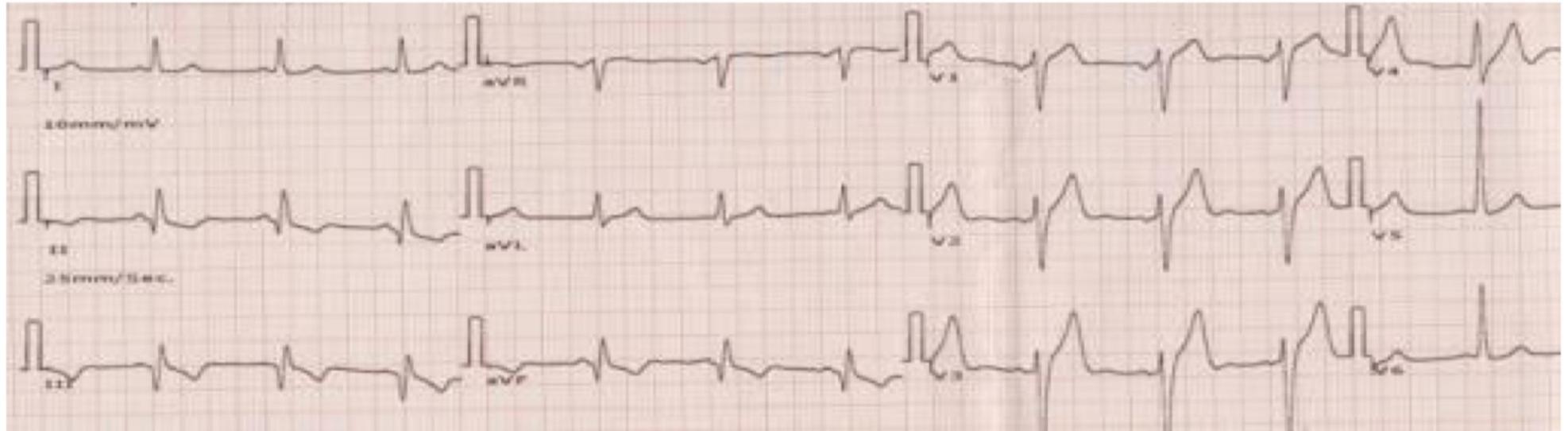
B- left main artery

C- left anterior descending artery

D-circumflex artery

E- left mammary artery

# Mini-OSCE



Pathological Q waves  
seen in Old MI  
(ECG from Google)

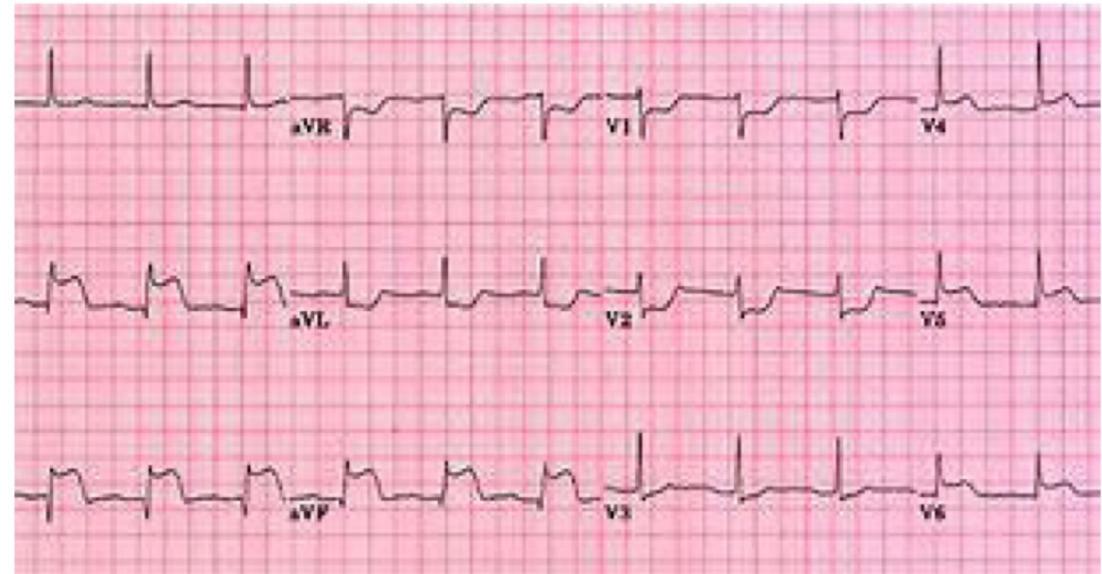
**Q14**

case 2 : 50 years old male presented with chest pain and sweating , ecg is done to the patient , what is the diagnosis :

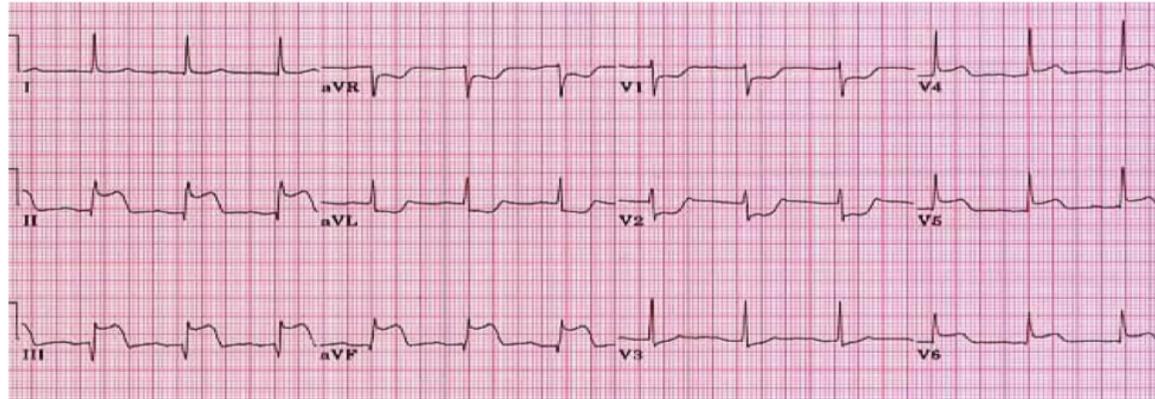
- 1- inferior MI
- 2- anteroseptal MI
- 3- Hypertrophic cardiomyopathy
- 4- posterior MI

#which of the following isnt immaediate measure :

1. aspirin 300mg
2. LMWH ?
3. B-blocker
4. thrombolytic therapy
5. PCI



A 60 years old patient present with chest pain and sweating for 1 hour duration



**Q1 \ what is the diagnosis?**

Inferior MI

**Q2 \ what are the treatment of choice?**

1- MONA : morphine , O2 , nitrate , aspirin

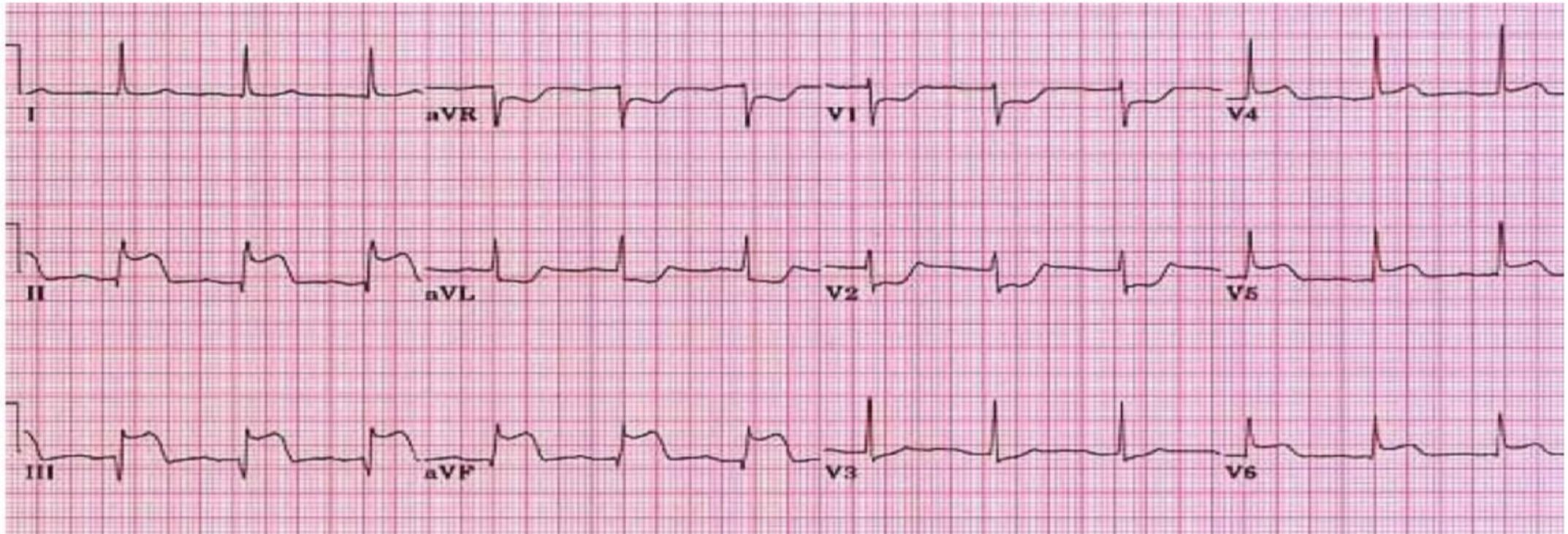
لا تحطوا ال nitrate اذا كان عنده hypotension

2- catheterization or thrombolytics

بس كونه اقل من 90 دقيقة حطوا cath

**Q3 \ after 5 days the patient present with shortness of breath and hypotension and when auscultate there is normal breath sounds , what is the diagnosis and what is the treatment ?**

Pericarditis as a complication of MI and the treatment is pericardiocentesis



- 1) what is your diagnosis ( inferior MI)
- 2) give me 3 finding in this ECG (ST elevation ,St depression,.....)
- 3) give me 2 lab investigations ( cardiac enzyme/ Echo)
- 4) give me 4 line of treatment ( o2, antithrmboltic ,aspirin, PCI)

Q7 - This 53 year old male had a myocardial infarction 1 month ago, which of the following is best assessed in follow up for secondary prevention?

- a. **LDL level**
- b. Total cholesterol
- c. HDL level
- d. Free fatty acids
- e. Triglycerides

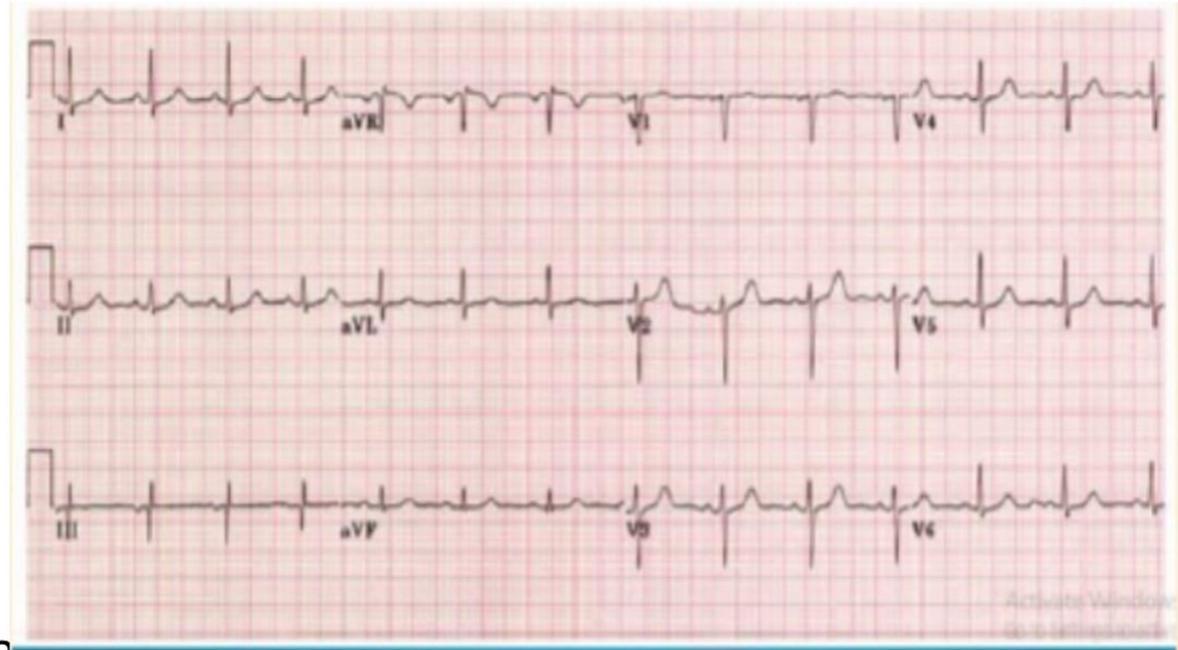


# Station 12: Patient presented with chest pain ... he had elevated CKMB ...

1) Describe the ECG?

1) What is your diagnosis?

Non-STEMI



1) What is the treatment ? aspirin,heparin ,beta blockers ,oxygen,ACE inhibitors

aspirin,heparin ,beta blockers ,oxygen,ACE inhibitors

Q9 - A 51 year old male diabetic patient is admitted through the emergency department with chest pain of 1 hour duration, one of the following is not indicated acutely?

- a. Thrombolysis
- b. Aspirin
- c. Morphine
- d. ACE inhibitors**
- e. Cardiac catheterization

