CVS CBL-2 IHD

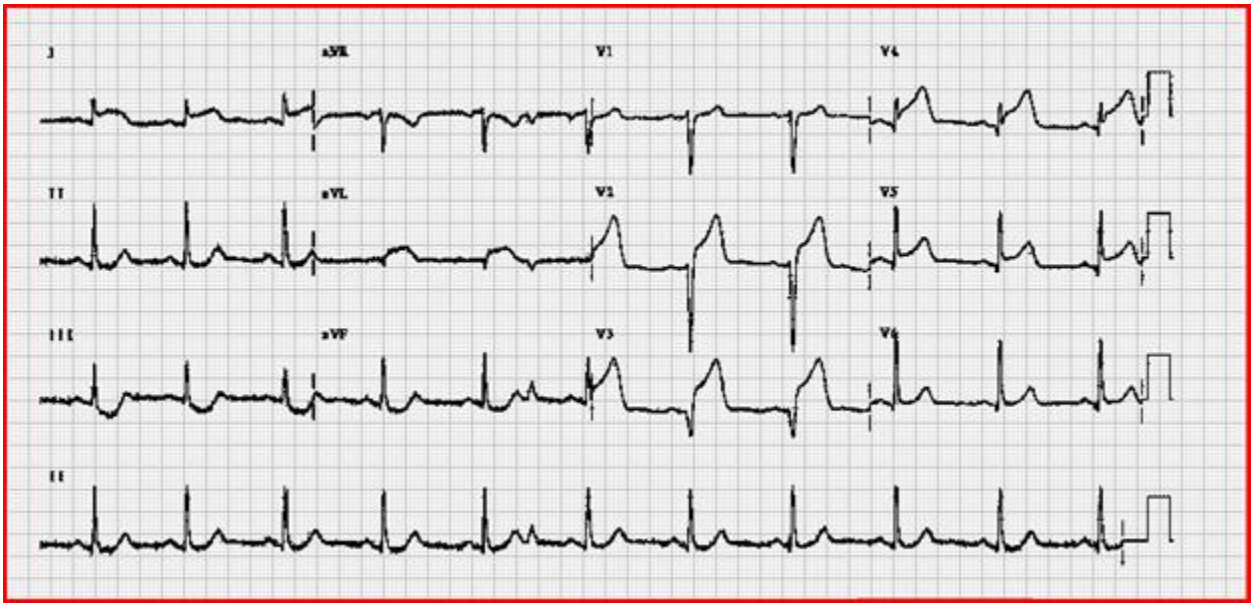
OBJECTIVES: be able to explain

1. **Pain sensitive structures of heart and characteristics of pain originating from heart**
2. **Blood supply of heart and results of its occlusion, pathophsiology of occlusion**
3. **biochemical changes associated with myocardial injury**
4. **ECG changes associated with myocardial injury**
5. **Risk factors and role of lipids in the pathogenesis of coronary artery disease.**

CLINICAL CASE:

Mr. A, 45 year old wholesale cloth merchant was working at his shop when he felt pain in his chest. At first he ignored the pain, but it became severe and crushing in the retrosternal area radiating down to his left arm. It was associated with sweating. The pain continued even after he sat down, so his younger brother called an ambulance to take him to hospital, where he was admitted in the Coronary Care Unit. He gives history of smoking one pack of cigarettes per day for 20 years. He is a known Hypertensive and takes medicine irregularly. His father died of heart attack at the age of 51years. He leads a sedentary life style and very fond of eating fast food.

On admission to the hospital, his physical examination reveals middle aged adult of average height but overweight, his blood pressure was 100/70 and pulse of 110 /min. His peripheral pulses were palpable but weak. He has crackling sounds at the bases of both lungs. A 12 lead ECG shows S-T segment elevation of 3 small squares in leads I, aVL and V1- V5. The Cardiac enzymes report shows elevated CK-MB levels and positive Trop I test. His lipid profile report shows cholesterol-240mg/dl (normal<200mg), LDL-160 (normal <130), HDL-25 (normal>35). X-ray chest P-A shows cardiomegaly and pulmonary edema.



TUTORIAL:

Student should discuss following issues after going through this case.

Q1. What has happened to this patient and why?

Q2. How Heart gets its blood supply and what happens when it is interrupted?

Q3. How blood supply to Heart is reduced or interrupted? Explain mechanism?

Q4. Which artery is blocked in this case and why?

Q5. What are the risk factors for blockage of coronary circulation?

Q6. What are the Pain sensitive structures of heart and mediastinum and how they present in clinics?

Q7. How you explain crackling sounds at the bases of lung in this case?

Q8. How biochemical changes you correlate in this case? How are they useful in clinical practice?

Q9. How myocardial injury can be detected with the help of Electrocardiographic changes on ECG?

Q10. How lipids play role in atherosclerotic vascular disease and coronary heart disease?