Case number 1
CORONARY ARTERY DISEASE

A 50 years old male teacher comes to the primary care unit with complaints of chest pain during moderate exercise such as climbing one floor. This problem he has noticed over the last few weeks. He has pain in his left anterior chest radiating to the back, left side of the neck and left shoulder which disappear with rest.

HISTORY
SOCIAL HISTORY
Married for 23 years and has three children.
Tobacco 1 ppd x 15 years has not smoked for 5 years
Alcohol Occasional beer or glass of wine
Caffeine 2 cups of coffee every morning
Exercise None

PAST MEDICAL HISTORY
Current medication ACE inhibitors
Surgery Cholecystectomy at 45 of age
Childhood illness Chicken pox, measles and mumps
Injury/Trauma None

FAMILY HISTORY
Father Died at age of 70 years with aneurysm
Mother Died at age of 40 years of a stroke
Sister 55 years living with no health problems

REVIEW OF SYSTEMS
General Overweight for 20 years, was diagnosed with hypertension 10 years ago. Currently on ACE inhibitors
Skin No rash or lesions
HEENT Wears reading glasses denidies nose bleeding, dizziness and sore throats
Lungs No asthma, bronchitis, SOB pneumonia
Cardiac Has noticed that his heart occasionally “Skips a beat”
No perversious episodes of chest pain
Genitourinary No dysuria, no change in urination
MSS Has arthritis in both knees and some in hands
Neurological Occasionally light headach, no numbness, fainting or seizures

PHYSICAL EXAMINATION
Vital Signs Temp. 37* c, Puls r2, R- 14, BP 155/90
General Alert, fully oriented, obese, skin warm and dry
HEENT Cranial nerves intact. Hearing normal. Thyroid not palpable. No carotid bruits
Lungs Clear to auscultation and percussion bilaterally.
Cardiac Heart rate regular. no murmurs
Abdomen Soft no tender, no mass.
GU No lesions or discharge. Testicles descended.
Rectal Mild prostatic hypertrophy
Neurologic Sensation intact with normal reflexes.
ABRATORY RESULTS

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
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<tbody>
<tr>
<td>WBC</td>
<td>6000 (52% neutrophil. 30% Lymphocytes. 6% monocytes. 1% eosinophils. 1% basophils)</td>
</tr>
<tr>
<td>Cherm</td>
<td>BUN 5, creatinine 0.8. total cholesterol 360, LDL 250., HDL 30, Triglyceride 400, FBS 90.,sodium 141mEq/L, potassium 3.0 mEq/L.</td>
</tr>
<tr>
<td>Unine</td>
<td>Yellow. neg. glucose. albumin I+, PH .5</td>
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INVESTIGATION

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheest X-ray</td>
<td>Normal cardiac size, no congestion</td>
</tr>
<tr>
<td>ECG</td>
<td>Regular rate 75 bhm, Normal axis Q wave in lead III and in lead aVF</td>
</tr>
<tr>
<td>Echocadiogram</td>
<td>Normal cardiac size, mild inferior hypokinesia, normal all nthickness and normal valves</td>
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</table>

FURTHER INVESTIGATIONS NEEDED

Exercise ECG
24h hour Holter monitor
Stress thalium
Coronary angiography

IMPRESSION

Previous ECG
Hypertension records
Dyslipidemia
CAD

LEARNING OBJECTIVES OF THE CASE

1. Clinical manifestations of coronary artery disease
2. Risk factor of CAD.
3. Differences between angina, the unstable angina and the myocardial infarction
4. Differential diagnosis of CAD.
5. Investigations
6. Common arrhythmias in acute myocardial infarction
7. Management of CAD

QUESTIONS

1. What are the other causes of chest pain
2. What are the possible complications of CAD
3. How you can assess the severity of CAD
4. What are the differences of risk factors of CAD in male and female
5. What is the rule of hypertension in development of CAD
6. What is the coronary angiogram
7. What are the differences between invasive and non invasive investigations
8. What is the coronary angioplasty
9. What is the coronary artery bypass graft (CABG)
10. What are the possible measures for prevention of development of CAD
Case number 2
HEART FAILURE

CASE HISTORY

CHIEF COMPLAINT
A 33 year male patient presenting to the emergency room with shortness of breath. He has a history of non ischemic cardiomyopathy (presumed viral etiology) with multiple admissions for exacerbations of heart failure. He had been admitted to the hospital six times within the past year with recent discharge approximately four weeks ago. He is admitted to the Coronary Care Unit secondary to signs and symptoms of fluid overload unresponsive to advancing his diuretic regiment as an outpatient.

HISTORY OF PRESENT ILLNESS
He had been doing well until about two weeks prior to admission when he noted a decline in his appetite. Over the past few days, he has experienced a gradual increase in bloating and abdominal girth. Previously having considerable dyspnea on exertion. He has now developed dyspnea at rest. He denies proximal nocturnal dyspnea but admits to worsening orthopnea. He denies chest pain and palpitation. He was seen by his cardiologist last week in clinic. At that visit, Furosemide was increased from 80 mg bid time to 120 mg bid time and Metolazone 2.5 mg qd and potassium supplementation was added as well.

PAST MEDICAL HISTORY
Non ischemic cardiomyopathy (LVEF 30%, LVEDV1 200 ML/M^3)
Obesity, Obstructive sleep apnea, Depression

MEDICATIONS PRIOR TO ADMISSION:
Enapril 5 mg po bid, Furosemide 120 mg po bid, Metolazone 2.5 mg po qd, KCL 20 mEq po qd, Digoxin 0.25 mg po qd, Spironolacton 12.5 mg po qd,

PHYSICAL EXAMINATION
General Appearance: Obese male in moderate respiratory distress
Height 180cm Weight 120 Kg
Vital Signs: BP: 97/46 mmHg. HR: 105 Bet /min, RR: 26, Tmax: 37.5°C
HEE NT: JVD 12cm
CV: RRR, positive S3 gallop
Chest: Bilateral rales lower 1/3 lung field
Abdomen: mild hepatomegaly, (-) splenomegaly, (-) bowel sounds
Extremities: Bilateral 2+ pitting edema to mild-thigh

TESTS
EKG: Sinus tachycardia, myocardial hypertrophy
Portable Chest X-ray: Cardiomegaly, diffuse edema
Echocardio gram: Dilated left ventricle with reduce LV function. Dilated LA with sever mitral regurge.
LABS
Sodium: 129 mmol/L
Potassium: 5.1 mEq/L
Creatinine: 2.0 mg/dl (baseline 1.2)
White blood cells: 5.3 x 10^3 μl
Hemoglobin: 9.4 g/dl
Hematocrit: 30.1 ml/dl
Platelets 377 x 10^3 μl
Digoxin in 2.3 ng/ml

DISCHARGE INSTRUCTIONS:
Diet: Low salt diet
Activity: As tolerated.
Laboratory studies: Serum potassium and digoxin concentration one week following discharge.
Follow-up: Cardiology clinic appointment four weeks post discharge.
Other: Patient to contact cardiologist if weight change as described above occurs.

DISCHARGE MEDICATIONS:
Enalapril 10 mg po bid
Furosemide 120 mg po bid
Digoxin 0.125 mg po qd
Spironolactone 25 mg po qd

LEARNING OBJECTIVES OF THE CASE
1. Definition and types of heart failure (HF)
2. Causes of HF.
3. Pathophysiology of HF.
4. Clinical features of HF.
5. Investigations of HF
6. Complications of HF
7. Management of HF

QUESTIONS
1. What are the differences between left and right heart failure
2. What is the meaning of congestive heart failure
3. How you can assess the severity of left heart failure by clinical manifestations and echocardiogram
4. What is the rule of hypertension in development of HF
5. What are the rules of valvular heart diseases in development of HF
6. What are the acute and emergency complications of HF
7. What is valvuloplasty
8. How you can manage the fluid overload in such patient
9. What are the possible measures to prevent HF