

# Case Report On Coronary Artery Disease

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## **Abstract:**

**Introduction:** Coronary artery disease (CAD) obstructs the supply of blood to the heart muscle through the coronary arteries. Atherosclerosis is main cause of CAD. **Patient history:** The male patient 54 year old who was apparently admitted in AVBRH on date 22/08/2019 with chief complaint was severe chest pain which is radiating to shoulder and also complaint of shortness of breath and sweating. Excessive palpitation since in 1 month. After admitted in the ward all investigation done like X-ray, ECG, 2 Day echo, CBC, Lipid profile, cardiac stress test, and coronary angiography, PT or PT-INR Test etc. All over investigation observe then final diagnosis is conforming by coronary artery diseases. **Past history:** Patient was having the history of hypertension since 7 year. He is known case of hypertension. He was come with the complaint of chest pain in the hospital in 2018 one year back diagnosed he was myocardial infarction. **Clinical finding:** The patient has been undergone with various investigations like physical examination, cholesterol and triglyceride are often elevated in patients with atherosclerosis, cardiac examination, X-ray, ECG, 2 Day echo, CBC, Lipid

*profile, cardiac stress test, and coronary angiography, PT or PT-INR Test etc.*

**Pharmacology:** *Patient was treated with anti-angina agent and antihypertensive drug*

*Medical Management: Tablet- amlo 5mg, Tablet- flavedon 35 mg, Tablet- ecosprin 150mg,*

*Tablet- pan 40 mg, Tablet-ranolazine 500mg. Nursing management: Monitor the vital sign,*

*Maintain O2 level and intake and output. Incision side is observed like any complication.*

*Patient assessed for anxiety, depression and anger. Conclusion: Patient was admitted to*

*hospital with the with chief complaint was severe chest pain, shortness of breath, excessive*

*palpitation, sweating since in 1 months and his condition was very critical and patient was*

*admitted in AVBR Hospital, immediate treatment was started by health team member and all*

*possible treatment were given and now the patient condition is satisfactory.*

**Key Words:** *Coronary artery diseases (CAD), Pharmacology, Nursing management.*

### **Introduction:**

Coronary artery disease (CAD) is an obstructed circulation of blood to the heart muscle through the coronary arteries. Atherosclerosis is the principal cause of CAD. The word acute coronary syndrome (ACS) is employed to cover the CAD spectrum. ACS defines the symptoms of CAD, such as dysfunctional angina, myocardial infarction with non-ST elevation and ST elevation. When there is serious and persistent blood loss resulting from CAD, a myocardial infarction (MI, hear attack) can occur which can cause permanent damage.<sup>1</sup>

### **Incidence:**

The most prevalent type of heart disease is coronary heart disease, killing 365,914 people in 2017. About 18.2 million adults aged 20 and older have CAD (about 6.7 percent). In people younger than 65 years of age around 2 in 10 CAD deaths occur.<sup>2</sup>

### **Objective**

1. To know general idea regarding disease condition.
2. To explore knowledge regarding pharmacology, medical and nursing management.

### **Patient Information**

**Patient present history:** The male patient 54 year old who was apparently admitted in AVBRH on date 22/08/2019 with chief complaint was severe chest pain which is radiating to

shoulders, shortness of breathing, excessive palpitation, sweating since in 1 months. After admitted in the ward all investigation done like X-ray, ECG, 2 Day echo, CBC, Lipid profile, cardiac stress test, and coronary angiography, PT or PT-INR Test etc. All over investigation observe then final diagnosis is conform are coronary artery diseases.

**Past history:** Patient was having the history of hypertension since 7 year. He is known case of hypertension. He was come with the complaint of chest pain in the hospital in 2018 one year back diagnosed he was myocardial infarction.

**Causes:**

Modifiable causes high blood cholesterol level (hyperlipidaemia), cholesterol levels above 240 mg/ dL increases the risk of developing CAD, cigarette smoking, atherosclerosis, Tobacco uses. Hypertension, diabetes mellitus, physical inactivity, obesity, stress and type A personality and elevated serum homocysteine and lack of estrogens in women. Non modifiable causes are family history, increasing age, gender, and race.<sup>3</sup>

**Clinical Finding:**

Vascular-capillary refill greater than 3 second, dry skin , diminished peripheral pulses, loss of hair on extremities, loss of hair on extremities, thickened nails, leg cramps, pallor in nail beds. Cardiac- chest pain, dizziness, nausea, diaphoresis, tiredness, shortness of breath and arterial noise.<sup>1</sup>

**Diagnosis evaluation.**

1. **History collection-** Done (history of Hypertension).
2. **Physical examination-** Done
3. **Ultrasound scan-** Done
4. **Others:** X-ray, ECG, 2 Day echo, CBC, Lipid profile, cardiac stress test, coronary angiography, PT or PT-INR Test, EKG (Electrocardiogram) and Holter and Event Monitors, stress test.

**Blood Investigation Report**

Investigation	Patient Value	Normal Value	Justification
Biochemistry-			
<b>Kidney function test</b>			

1. Urea serum	29mg%	18-40mg %	Normal
2. Creatine serum	1.96mg%	0.7-1.5mg%	Increased
3. Sodium serum	136meq/l	136-145meq/l	Normal
4. Potassium-serum	4.4meq/L	3-5 meq/L	Normal
<b>Pathology complete blood count</b>			
1. HB%	11.6 gm%	13-15.5gm%	Normal
2. MCV	77cub.micro	80-90cub	Decrease
3. MCH	30 pico.gm	26.5-33.5 pico gm	Decrease
4. MCHC	34.6%	30.36.5%	Normal
5. Total RBS count	3.85millioncumm	4.5-6 million cumm	Normal
6. RDW	12.2%	13-15.5%	Normal
7. HCT	33.4%	40.50%	Normal
8. Total WBC count	7000	4000-11000cumm	Normal
<b>Lipid profile</b>			
1. HDL-cholesterol	76 mg%	35-75mg%	Increase
2. Cholesterol total	192 mg%	160-200mg%	Normal
3. Triglyceride	106 mg%	65-160mg%	Normal
4. LDL-cholesterol	92%	50-165%	Normal

**Electro cardio graphy (ECG)** – Abnormalities of heart rhythm, earlier damage to the heart attack or an enlarged heart.

**Chest X-ray**- abnormal calcification in the main blood vessels and fluid in the lungs.

**Coronary angiography**- Done (This is a type of x-ray that uses a colouring to show coronary arteries.

## MEDICAL THERAPY

### Pharmacologic Therapy

- Beta-Blockers.
- Calcium Channel Blockers.
- Angiotensin-converting enzyme (ACE)
- Antiplatelet and anticoagulant agent
- Antihypertensive agent
- Nitrates-nitroglycerine<sup>3</sup>

**Medical Management:** Now patient treatment given in the ward anti-angina agent and antihypertensive drug Medical Management: Tablet- amlo 5mg, Tablet- flavedon 35 mg, Tablet- ecosprin 150mg, Tablet- pan 40 mg, Tablet-ranolazine 500mg

**Nutritional Therapy-** By reducing the LDL cholesterol, CAD reduces risk. The guidelines recommend a reduction in saturated fat and cholesterol and an increase in complex carbohydrates (e.g. whole grains, fruits, vegetables). Approximately 30 percent of calories will be fat consumption, with most coming from monosaturated fats found in nuts and oil such as olive or canola. Red meats, bacon, and whole-milk foods are essential sources of saturated fat and cholesterol, and diets should be reduced or eliminated. When the serum triglyceride level is high, it has been shown that the consumption of alcohols and simple sugars reduces or removes omega 3 fatty acids when regularly ingested.<sup>4</sup>

**Surgical Management:-**

- Coronary angioplasty
  - Coronary artery bypass grafting
  - Atherectomy
  - Coronary stent
  - Surgical revascularisation of the artery affected
1. Embolectomy-Blood clot removal from the artery
  2. Thrombectomy-Artery thrombus removal
  3. Endarterectomy-Atherosclerotic plaque removed from the artery<sup>3</sup>

**Nursing Management:**

The nurse is in charge of prescribing the medications and assessing their positive and detrimental effects on the patient. The pharmacologic therapy type and dosage is determined

by the combination of these effects. Actions to assess clinical effectiveness in nursing include:

- Keep intake and output records to determine negative equilibrium (more output than input).
- Weighing the patient daily on the same scale , usually in the morning after urination; checking for average benefit of 2 to 3 lb or 5 lb per week
- Lung exultation sounds at least regularly to detect an rise or decrease in lung crackles
- To assess JVD degree
- Identify and assess dependent edema severity.
- Monitoring of pulse and blood pressure, and monitoring postural hypotension and ensuring that dehydration does not cause the patient to become hypotensive.
- Assessing fluid overload symptoms ( e.g., orthopnea, nocturnal paroxysmal dyspnea, and exertional dyspnea) and assessing changes.
  - Monitor laboratory tests as indicated.
  - Auscultation lung field for crackles.<sup>1</sup>

#### **Nursing Diagnoses:**

- Activity intolerance (or risk of activity intolerance) associated with an imbalance between supply and demand for oxygen due to decreased cardiac output
- Acute chest pain related to coronary artery blockage
- Breathlessness-related anxiety and restlessness from insufficient oxygenation
- Powerlessness related to incapacity to fulfill roles due to chronic illness and hospitalizations
- Noncompliance due to lack of knowledge.

#### **COLLABORATIVE PROBLEMS/ POTENTIAL COMPLICATIONS::**

- Abnormal heart rate
- Heart failure
- Chest pain
- Heart attack
- Sudden death

**Continuing Care:** A referral to the home care may be suggested for a hospitalized patient, depending on the physical condition of the patient and the availability of family assistance. Elderly patients and those with long-standing cardiovascular disease with impaired physical stamina often need home transfer assistance after CAD hospitalisation. The home care nurse's assessment of the home's physical environment is important. Suggestions to adapt the home environment to meet the limitations of the patient's activity are significant. If stairs are the concern, the patient can plan the day's activities to minimize stair climbing; for some patients, a temporary bedroom may be installed on the home's main level.<sup>5</sup>

## **ANALYSIS:**

### **1 Demonstrates tolerance for increased activity**

1. Proves tolerance for increased exercise
  - a. Describes adaptive approaches to normal activities
  - b. Stops any operation that causes intolerant symptoms
  - c. Maintains vital signs within the target range (pulse, blood pressure, respiratory rate, and pulse oximetry).
  - d. Identifies factors which contribute to intolerance of activity and takes action to prevent it
  - e. Set activities goals
  - f. Schedules energy saving practices and reducing fatigue and dyspnea

### **2. Holds fluid equilibrium**

- a. The peripheral and sacral edema decreased
- b. Proves methods to prevent oedema

### **3. Are less stressed**

- a. Avoids stressful situations
- b. Sleeps cozily at night
- c. Studies have lessened depression and anxiety

### **4. Requires conclusions about care and treatment**

- a. Capacity of States to influence results

### **5. Adheres to the regime of self-care**

- a. Takes daily weights and records them
- b. Ensures dietary intake not exceeding 2 to 3 g of sodium per day.

### **Discussion**

A cardiovascular disease is the most serious cause of death in the world. The most common form of cardiovascular disease is, and accounts for, coronary artery disease (CAD). Asymptomatic angina, or chronic stable angina, can develop in CAD patients. Dysfunctional angina (UA) and myocardial infarction (MI) or acute coronary syndrome (ACS) are the severest manifestations of CAD. Effect of Alirocumab was studied and reviewed by Bittner et al<sup>6</sup> on lipoprotein(a) and cardiovascular risk after acute coronary syndrome; by Goodman et al<sup>7</sup> on cardiovascular events after coronary bypass surgery and by Jukema et al<sup>8</sup> on recent acute coronary syndrome. Ray et al studied the effects of alirocumab on cardiovascular and metabolic outcomes after acute coronary syndrome in patients with or without diabetes<sup>9</sup>. Similar studies were reported by Steg et al<sup>10</sup> and White et al<sup>11</sup>. Articles related to cardiovascular health and risk factors from this region are available<sup>12,13,14</sup>.

**Strength:** Patient was 54 year male patient tolerate all the medication and well response within seven days to the therapeutic treatment of the hospital which was given as a treatment.

### **Informed Consent:**

Before taking this case, information was given to the patients and their relatives and Informed consent was obtained from patient as well as relatives.

### **Conclusion:**

The result of coronary artery disease is once coronary arteries, the main veins that provide blood to your heart, and nutrients become ruined. Dietary fat which includes dregs (plaque) in your veins and irritation is typically causing coronary artery disease. When dregs spread, coronary arteries become more taper, diminishing blood stream to nucleus.

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