

# Ischemic Heart Disease: Case Report

Pratiksha Thakare<sup>1</sup>, Ruchira Ankar<sup>2</sup>, Sonali Wavare<sup>3</sup>, Manoj Patil<sup>4</sup>

<sup>1</sup>M.Sc Nursing 1<sup>st</sup> Year, Department of Medical-Surgical Nursing, <sup>2</sup>Associate prof. Department of Medical-Surgical Nursing, <sup>3</sup>Clinical Instructor, Department of Medical-Surgical Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences (DU) Sawangi (M), Wardha India, <sup>4</sup>Research Consultant, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences (DU) Sawangi (M), Wardha India

## Abstract

**Introduction:** Ischemic Heart disease is one of the leading causes of mortality in the world. Advancement in the diagnosis and treatment of this disease available, but still they were considering as major health problems in the world.

**Case Presentation:** The purpose of this report only to reduce the major risk factor that is obesity and provide preventive base Health care treatment which has the greatest effect in the shortest period. The main symptoms of this disease are chest pain (Angina) and pain mostly occur on the middle or left side of chest and pain sharp and radiate towards the neck, arm or back, other symptoms like shortness of breath. Obesity is the one of risk factors in heart diseases. The main diagnose of ischemic heart disease is includes the complete medical history, electrocardiogram, bloodanalysis, chest x-ray, echocardiography, coronary computed tomography and coronary angiography. Therapeutic interventions or treatment for ischemic heart disease includes that pharmacological therapy, lifestyle modifications and regular exercises are the most cost-effective interventions. Cardiac rehabilitation is for all patients with coronary artery disease is required.

**Outcome:** The effective interventional strategies to help the patient to change the lifestyle and it helps to prevent risk factors such as obesity and also helps to the patient in identifying the symptoms.

**Conclusions:** Considering the patient's recovery process regarding physical strength it seems that the combination of pharmacological treatment and lifestyle changes as a control on obesity, regular exercises and cardiac rehabilitation helps to treat coronary heart diseases.

**Keywords:** *Ischemic heart disease, Obesity, Prevention and treatment, cardiac rehabilitation.*

## Introduction

Ischemic heart disease is the most common cause of mortality in various societies; the occurrence of heart diseases varies with culture and tradition and differs from country to country. In the Middle East and Western Europe have the highest mortality rates of cardiovascular diseases.<sup>(1)</sup> Ischemic heart disease is the first cause among the most common causes of death; Ischemic means the reduced blood supply. The coronary arteries that supply blood to the heart muscle, so due to that blockage in the coronary arteries reduce the blood supply to heart muscles. Most ischemic heart diseases are caused due to atherosclerosis. The narrowing or closure is caused by

atheromatous plaque on heart walls and artery rupturing and it leads to heart attacks it is due to only the narrowing of the artery. A heart attack is the cutting of blood supply to heart muscles.<sup>(2)</sup>

Risk factors for cardiovascular diseases include Hypertension, diabetes, hyperlipidemia, obesity and smoking. According to United States data, more than 6 million people admitted for an emergency each year with chest pain and they diagnosed with myocardial infarction and are admitted in cardiac care units and also 500,000 deaths each year are due to Ischemic heart disease. Various therapeutic approaches, including medicine treatments using thrombolytic drugs, anti-thrombus,

beta-blockers, calcium antagonists and invasive treatments like angioplasty and open heart surgery have also been used in the treatment of this disease, etc. Most hospitalized patients can experience anxiety due to heart problems before coronary angiography. Due to increasing heart diseases, cost of treatment also increase so it put pressure on health system, so prevention, its complication and treatment is necessary.<sup>(1)</sup>

**Case History:**

**Patient Information:** A 78 years old male patient admitted in emergency department with complained of chest pain. Since two week, he was suffering from cough and mucus expectorant and chest pain and abdominal distension before five days of hospitalization. He was diagnosed as angina with acute coronary diasease after coronary angiography and admitted in cardiac ward for management. The patient was not having family history and genetic history of heart disease. patient was past history of Coronary artery disease since 6 month ago .

**Clinical Findings:**

**Medical History and Physical Examination:** The patient was not having any past history of heart diseases and high blood pressure but the patient was having past history of obesity since 5 years.; the patient did not use proper nutrition for the prevention of disease. and he did not follow the advice of doctors and not keep hygiene. The patient’s sleep status was disturbed. Due to the health problem he was not working for family. The Body Mass Index of patient was 33.13 kg/m2 (weight - 105 kg and height -178 cm.). In physical examination some clinical findings were obtained i.e The patient was on chest pain since five days and patient chest pain was radiate towards back and cough with mucus expectorant and cold sweating, distension of abdomen also found,the patient

had a hot temperamental and patient’s pulse was full and felt warmer when touching the skin. The patient had the following vascular risk factors: 1) body mass index of 33.13kg/m2, in other words, very obese; suffering from hyperlipidemia and fatty liver for over 2 years treated with Atorvastatin, 40 mg once a day, clopitab 75 mg once in a day, Ramipress 2.5 mg once a day, 2) lack of sufficient physical activity, 3) Stressduring this period, the patient was treated with modern method. He was anxious as a result of being hospitalized in cardiac care and undergoing angiography.

**Timeline:** Coronary heart disease was initially thought to be a disease of modern humans, but the disease is not a new .article in 2013 that shows atherosclerosis may be very ancient. The clinical syndrome of angina pectoris existed in ancient Egyptbut there is no record of any anatomical and clinical correlation. But currently, from this episode prevention and lifestyle modification, it is important aspects related to heart diseases.<sup>(3)</sup>

**Diagnostic Assessment:** The patients when admitted to the hospital, the patient suffered from chest pain for five days, the patient suddenly experienced persistent pain at the back of the chest six hours before his visit. This pain increased until the time of admission to the Emergency department . The patient history taking and physical examination done. Electrocardiogram were done. Coronary angiography was done and after all based on investigation patient diagnosed as Ischemic heart disease and shifted to the cardiac ward for treatment . The patient received coronary artery angiography at the time and by the diagnosis of cardiovascular obstruction and other diagnoses available like computed tomography of heart, Cardiac biochemical markers, Biopsy of heart, etc.

Sr.No.	Diagnostic Test	Findings	Remark
1	Pathology – Total WBC	16400/cumm	Increased
2	<b>Livet function test:</b> • SGPT • SGOT • Alkaline phosphate	52 IU/L 61 IU/L 54 IU/L	Increased Increased Decreased
3	Ultrasonography	Grade I fatty liver, Gasiuous distention of the abdomen	
4	2D–Echo	Left atrium is normal ang enlargement of left ventricle, Hypokinesia of anteroseptal wall of left ventricle.	

**Prognosis:** After the treatment such as combination of therapeutic method and lifestyle modification practices, regular exercises, cardiac rehabilitation, continuation in pharmacological therapy, modification in diet pattern, the patient's general condition improved after the second week, so that the patient's stress and anxiety were not observed or recorded during that period and the patient's vascular obstruction was not improved in his clinical report, at the moment; the patient was only treated with atorvastatin, 40 mg once a day, and Ramipress 2.5 mg once a day for his blood pressure and used health and nutritional measures.

### Therapeutic Interventions

Pharmacological, dietary, surgical, Preventive management are very effective in Ischemic Heart Disease .

*Pharmacological:* For this patient, due to his condition of disease, lifestyle modification and pharmacological drugs were used. Pharmacological treatment was used to treat patient. The client was only treated with Atorvastatin, 40 milligram once a day and Ramipress 2.5 mg once a day for his blood pressure and clopidab 75mg once a day used health and nutritional measures.

*Surgical:* The doctors advised the patient for surgical treatment, but the patient and relatives said that they will plan after a few days because the patient belongs to poor class family and medical treatment was not affordable to them.

**Preventive measures:** The patient's advice to reduce weight because obesity having risk for the further development of Ischemic heart disease. Advised the patient regarding diet that is salt restriction diet, low cholesterol diet, avoids spicy fast food and use the garlic is one of the herbs used to treat cardiovascular diseases (especially vascular obstruction). For men, especially those who are warm in temperament, use more protective foods like fruits, vegetables, whole grains, fish, nuts limitation or avoids sweets, change the lifestyle practices such as sedentary lifestyles, regular physical exercises it helps to keep healthy body weight, Aerobic exercise strengthens the heart muscles, It helps in reduction of stress with a relaxation technique.

**Self-care:** Coronary heart diseases require self-care including diet restriction, use of medication on regular, monitoring of symptoms and instructed to the patient to

engaged in routine management, self-care including self-management, self-regulation, self-monitoring, etc<sup>(4)</sup>

**Follow-up:** At the time of discharge, given the proper information to patients and relatives regarding follow-up treatment. Inform the patient after 8 days or 15 days visit to the hospital and if any emergency or complication or any sudden incidence happened with patients that time consults with doctors. and inform the health prognoses to the physician. Follow-up after discharge is very important to monitor health status with a laboratory test, physical assessment it helps to know the health status of patients.

**Outcome:** Effective interventional strategies help the patients to change the lifestyle and it helps to prevent risk factors such as obesity and it also helps the patient in identifying the symptoms improve function and quality of life and prevent coronary disease events. After discharge, the patient visited the hospital to follow up so that time improvement in patient health status was seen.

### Discussion

On each year, due to cardiovascular diseases many deaths in the world, such that these type of diseases occur in males and females, due to coronary disease the mortality rate increases, heart disease death rates are declined in men and increased in women since the past decade<sup>(5)</sup>. It has been studied, in the year 1965 - 1990, cardiac-related death fell by near 50% in the United States and by 60% in Japanese.<sup>1</sup> Burdens of disease in developing countries It has been estimated that 5.3 million deaths attributable to CVD occurred in the developed countries in 1990, whereas the corresponding figure for the developing countries ranged between 8 to 9 million (ie, a relative excess of 70%).<sup>(6)</sup>

Cardiovascular diseases are multifactorial illnesses and so far many risk factors have been identified. Also, various studies have been carried out on these risk factors at home and abroad. In 1990, the world's population was about 3.5 billion and cardiovascular disease was responsible for 3.34 million deaths, which equaled 28.4% of the world's 50 million deaths, of which 3.6 million died from coronary artery disease including 44% of deaths due to cardiovascular diseases. At the beginning of the 20th century, only 10% of the world's deaths were related to cardiovascular diseases, but it reached 28% by the end of the 20th century and today it accounts for about half the deaths of developed countries and 25% of the deaths in developing countries. It is predicted that

by 2020 these diseases will become the leading cause of mortality in the world with an estimated 36% of the total deaths in world<sup>1</sup>. The increasing use of tobacco in several developing countries will also translate into higher mortality rates of CVD, lung cancer and other tobacco-related diseases. Globally the availability of cheapest vegetables, mixed oil and fat product in low-income countries are reported as increased fat consumption among people and this also responsible for the development of heart diseases.<sup>(6)</sup>

In most developing countries reported as there are increase the number of people of tobacco use According to Recent information of health organization suggest that, 2020 this year is the single most cause behind death due to tobacco near range accounting for 12.0 % of worldwide mortality.<sup>6</sup> In India only, mortality rate in near about range due to the tobacco use 1.4% in 1990 to 13.0 % in recently 2020. Coronary artery inflammation with oxidative stress causes lipid accumulation and as a result, leads to arterial injury called atheroma. Also, high levels of lipid in the plasma lead to endothelial activation and increase the adhesion of immune cells to the endothelium, resulting in impaired functioning of the endothelium. The conditional risk factors associated with an increased risk of coronary artery disease include triglyceride, homocysteine, lipoprotein, coagulation factors, and inflammatory markers<sup>(1)</sup>. Despite the significant, diagnostic and treatment advancement availability of these diseases in the last three decades, a high amount of treatment of this disease imposes a significant burden on the individual and the health system of the community .

The patient studied in this report had ischemic heart disease that was treated with medical treatment. In this report, an attempt was made to use the most effective and least complicated method .In general, there is no specific definition of modern medicine in the description of traditional medicine for coronary artery disease. To treat the disease and its complications. Over the past decade, new solutions have been proposed for the treatment of ischemic heart disease and this has reduced mortality. With creativity and innovation, which includes the use of physiopathology of modern medicine, the definitions of traditional medicine in Iran were used in the study of temperament, nutritional reform, strengthening of the patient, radiotherapy, herbal therapy, etc. This is referred to as targeted effective medicine. Therefore, the patient needs therapeutic interventions including behavioral therapy, physical exercise, nutrition, herbal medicine.

Various studies have shown that lifestyle modification toward a healthy lifestyle, including the use of healthy eating, proper nutrition, exercise, non-smoking and good mental health can provide health indicators even in an individual with ischemic heart disease. It also significantly reduces risk factors and complications.

## Conclusion

Effective medicine as a combined treatment, modern medicine and traditional preventive treatment such as regular exercises such as aerobic that strengthening the heart muscles and lower cholesterol diet, cardiac rehabilitation that improve the functional activity and improve quality of life. It also helps in reducing the cause of heart disease. It provides effective clinical findings in the treatment of certain diseases, such as ischemic heart disease. Therefore, in the treatment of this disease, the use of effective medicine method will cost less and improve the quality of life of patients. Therefore, according to modern medicine principles and other preventive treatments, it can be evaluated as a non-invasive therapeutic method that is very useful in the treatment of coronary heart diseases with the highest effect in a short time.

**Patient perspective:** The after discussing with the patient, patient verbalize that about their health at the time of follow up .He gave thanks to medical team for providing the best care to patient .He explained that the passive role of patient but most active role of health care team and he told that regular use of treatment, physical exercises, weight reduction, preventive care this all are helping to prevent further complications and a good attitude, beliefs and behaviors are most important factors.

**Informed Consent:** The patient's informed consent was taken and signed by the Patient before writing a case report.

**Ethical Clearance:** Taken from institutional ethics committee.

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**Conflict of Interest:** Nil.

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