"CORRELATIVE STUDY OF CORONARY ARTERY DISEASE SEVERITY AND GLYCOSYLATED HEMOGLOBIN IN DIABETIC AND NON-DIABETIC PATIENTS"

By

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In partial fulfilment of the requirements for the degree of

DOCTOR OF MEDICINE

IN

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Under the Guidance of

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ABSTRACT

BACKGROUND: Diabetes mellitus and coronary heart disease are closely associated with each other and generally coexist. The severity of coronary artery disease is related directly to the quality of glucose control in diabetic patients.

AIMS: To correlate coronary artery disease severity and glycosylated hemoglobin in diabetic and non-diabetic patients.

MATERIALS & METHODS: Descriptive observational cross-sectional study conducted for a period of 1.5 years from January 2019 to June 2020. A total of 400 subjects were included in the final analysis.

RESULTS: The mean age of the participants was 57.97 ± 11.59. The majority of the participants were males with 82.25%. ST-elevation MI, non-ST elevation MI, unstable angina, and stable angina were the clinical presentation identified with 61.25%, 18.5%, 11.25%, and 9% respectively. Troponin I was elevated in 80.5% of the participants. NSTEMI and STEMI were identified in 18.5% and 61.25% of the participants. The mean of LV Function in the study population was 47.32 ± 10.15. Among the study population, LMCA was identified in 9.25% whereas, Whereas, LCX, and RCA in 52.25% and 65%. The mean of Hba1C in the study population was 7.47 ± 2.26.

CONCLUSION: Increased HbA1c levels in the diabetes group was significantly associated with the severity of CAD.

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LIST OF ABBREVIATIONS

GLOSSARY	ABBREVIATIONS
ACCF	American College of Cardiology Foundation
ACS	acute coronary syndrome
AHA	American Heart Association
CABG	Coronary artery bypass graft
CAD	coronary artery disease
CI	confidence intervals
CIMT	carotid intima-media thickness
CVD	Cardiovascular disease
DM	diabetes mellitus
ECG	electrocardiographic
eGFR	Estimated glomerular filtration rate
ESC	European Society of Cardiology
FBS	fasting blood sugar
GS	Gensini score
HbA1c	hemoglobin
IQR	Interquartile range
LCX	Left Circumflex Artery
MI	myocardial infarction
NSTEMI	Non-ST-elevation myocardial infarction
OMT	Optimum medical treatment
PCI	Percutaneous Coronary Intervention
PTCA	Percutaneous transluminal coronary angioplasty
RCA	Right coronary artery
STEMI	ST-elevation myocardial infarction
T2DM	type 2 diabetes mellitus
WHF	World Health Federation

INTRODUCTION

INTRODUCTION

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, response to insulin, or both.[1] The presence of diabetes mellitus increases the risk of cardiovascular diseases. The main cause of death in both "type 1 and type 2" patients is coronary artery disease.[2] Worldwide, coronary artery disease has emerged as the single most important cause of mortality and morbidity.[3]

India is on the verge of a cardiovascular disease epidemic. The incidence of CAD has more than doubled in the past 2 decades in India. In the year 1990, there was an estimated death of around 1.17 million due to CAD in India, and by the year 2010, the number had almost doubled to 2.03 million.[4] An estimated increase of 6.3 million deaths is expected to occur due to coronary artery disease throughout the world between the year 2008 and 2030.[5]

Glycated hemoglobin is a well-known biomarker that reflects long-term glycemic control. It is established as a diagnostic tool for diabetic patients since 2010.[5] Glycated hemoglobin values reflect two to three months average endogenous exposure to glucose including postprandial spikes in blood glucose level and have low intra-individual variability particularly in non-diabetic patients.[6]

Glycated hemoglobin levels can be used as a predictive value for cardiovascular disease & mortality of patients with DM (diabetes mellitus).[7] Also, the elevated hemoglobin A1C is regarded as an independent risk factor for coronary artery disease in patients with or without diabetes mellitus.[6]

In a number of studies, the increased incidence and risk of developing coronary artery disease have been positively linked with diabetes mellitus. Lowering the level of HbA1c can decrease the neuropathic, macrovascular, and microvascular complications.[1]

NEED OF THE STUDY:

Diabetes Mellitus is one of the major risk factors for coronary artery disease, and there appears to be a graded rise in cardiovascular risk with the increase in degrees of glucose intolerance. The association of HbA1c with coronary artery disease in non-diabetics is inconsistent. The severity of coronary artery disease is directly related to the quality of glucose control in diabetic patients. The present study was conducted to correlate the coronary artery disease severity and glycosylated hemoglobin in diabetic and non-diabetic patients.

AIMS AND OBJECTIVES

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1. To evaluate the “severity” of coronary artery disease by coronary angiogram in diabetic, prediabetic, and non-diabetic patients.

2. To evaluate glycosylated hemoglobin levels in diabetic, prediabetic, and non-diabetic patients.

3. To assess the relationship between glycosylated hemoglobin and severity of “coronary artery disease” in diabetic, prediabetic, and non-diabetic patients.

REVIEW

OF

LITERATURE

REVIEW OF LITERATURE

- DIABETES MELLITUS

Definition:

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Association between the "chronic hyperglycemia of diabetes", long term damage, dysfunction, and failure of different organs was there. Polyuria, polydipsia, weight loss, polyphagia, and blurred vision are the symptoms of marked hyperglycemia. Hyperglycemia with ketoacidosis or the non-kenotic hyperosmolar syndrome is the acute life-threatening consequences of uncontrolled diabetes mellitus. Retinopathy, nephropathy, peripheral neuropathy, amputation, and cardiovascular symptoms are the long term complications associated with diabetes mellitus.[8]

Classification:

"Type 1 and type 2" diabetes are heterogeneous diseases in which the clinical presentation and progress of the disease may differ. Various genetic and environmental factors can result in the progressive loss of β cell mass in both "type 1 and type 2" diabetes mellitus. Classification of diabetes is most important for determining the treatment.

Table 1: Classification of diabetes mellitus.

TYPES	DESCRIPTION
Type 1 diabetes	➢ It occurs due to the destruction of autoimmune β-cell. ➢ It leads to absolute insulin deficiency.
Type 2 diabetes	➢ It is due to the progressive loss of β-cell insulin secretion. It frequently occurs on the background of insulin resistance.
Gestational diabetes mellitus	➢ It occurs in the second or third trimester of pregnancy.
Specific types of diabetes due to other causes	➢ Ex: Monogenic diabetes syndromes (such as neonatal diabetes and maturity-onset diabetes of the young [MODY]) ➢ Diseases of the exocrine pancreas (such as cystic fibrosis and pancreatitis) ➢ Drug or chemical induced diabetes (such as with glucocorticoid use, in the treatment of HIV/AIDS, or after organ transplantation)

Epidemiology:

Around 415 million people have diabetes in the world. Among them, 90% had type 2 diabetes mellitus. People with diabetes mellitus comprise 8.8% of the world population. International diabetes federation predicts that by the year 2040, the number of cases of diabetes will rise to 642 million.[9] Annually around 5-10% of people with pre-diabetes become diabetes.[10, 11] In a meta-analysis of prospective studies, the incidence rates of diabetes for the isolated IGT and IFG annually were 4-6% and 6-9% which were lower as compared to the IFG and IGT combined with 15–19%.[12] Around 70% of individuals with pre-diabetes can eventually develop diabetes as per American Diabetes Association.[13] In the USA, the prevalence of IGT and IFG were around 26% and 15% respectively.[14]

Diagnostic criteria:

Diagnosis of diabetes is based on the plasma glucose criteria, either the fasting plasma glucose or the 2-hour plasma glucose value during a 75g oral glucose tolerance test or A1C criteria. Greater convenience, pre-analytical stability, less day-to-day perturbations during stress and illness are the advantages of A1c whereas the disadvantages are the lower sensitivity of A1C at the designated cut point, greater cost, and the imperfect correlation between A1C and average glucose in certain individuals. National Health and Nutrition Examination Survey data indicate that an A1C cut point of ≥6.5% (48 mmol/mol) identifies a prevalence of undiagnosed diabetes.

Screening and Diagnostic Tests for Prediabetes and Type 2 Diabetes:

Table 2: Screening & diagnostic criteria of prediabetes and diabetes

Parameter	"Prediabetes"	"Diabetes"
A1C	5.7–6.4% (39–47 mmol/mol) *	≥6.5% (48 mmol/mol) †
Fasting plasma glucose	100–125 mg/dL (5.6–6.9 mmol/L) *	≥126 mg/dL (7.0 mmol/L) †
Oral glucose tolerance test	140–199 mg/dL (7.8–11.0 mmol/L) *	≥200 mg/dL (11.1 mmol/L) †
Random plasma glucose		≥200 mg/dL (11.1 mmol/L) ‡

Risk is continuous, extending below the lower limit of the range and becoming disproportionately greater at the higher end of the range.

In the absence of unequivocal hyperglycemia, diagnosis requires two abnormal test results from the same sample or in two separate samples. Only diagnostic in a patient with classic symptoms of hyperglycemia or hyperglycemic crisis.[15]

Table 3: "**Summary of "glycemic recommendations" for many nonpregnant adults with diabetes."**

"A1C"	**<7.0% (53 mmol/mol)***
Pre-prandial capillary plasma glucose	80–130 mg/dL* (4.4–7.2 mmol/L)
"Peak postprandial capillary plasma glucose"	<180 mg/dL* (10.0 mmol/L)

* More or less rigorous glycemic goals could also be applicable for individual patients. Goals ought to be personalized supported the "duration of diabetes", "age/life expectancy", "comorbid conditions", "known CVD or advanced microvascular complications", "hypoglycemia unawareness", and individual patient considerations. "Postprandial glucose" may be targeted if A1C goals don't seem to be met despite reaching pre-prandial glucose goals. Postprandial glucose measurements should be created 1–2 h when the start of the meal, typically peak levels in patients with diabetes.[15]

Table 4: "Criteria for testing for diabetes or prediabetes in asymptomatic adults."

1. Testing can be included that the adults with "overweight or obesity (BMI ≥25 kg/m^2 or ≥23 kg/m^2 in Asian Americans)" who have one or more of the following risk factors:
• "First-degree relative with diabetes."
• "High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)"
• "History of cardiovascular disease."
• "Hypertension (≥140/90 mmHg or on therapy for hypertension)"
• "HDL cholesterol level <35 mg/dL (0.90 mmol/L) and/or a triglyceride level >250 mg/dL (2.82 mmol/L)"
• Women with PCOS
• "Physical inactivity."
• "Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)"

2. “Patients with prediabetes” (A1C ≥5.7% [39 mmol/mol], impaired glucose tolerance, or impaired fasting glucose) should be tested yearly.
3. “Women who were diagnosed with GDM should have lifelong testing at least every 3 years”.
4. “For all other patients, testing should begin at age 45 years.”
5. “If results are normal, testing should be repeated at a minimum of 3-year intervals, with consideration of more frequent testing depending on initial results and risk status”.[15]

Complications of Diabetes Mellitus:

Definitions:

Microvascular complications:

In the case of diabetes patients, Microvascular complications are all long-term, which affect small blood vessels.

Generally, these include “retinopathy, nephropathy, and neuropathy”.

- Retinopathy has two categories:

1. Nonproliferative retinopathy – “the development of microaneurysms, venous loops, retinal hemorrhages, hard exudates, and soft exudates.”
2. Proliferative retinopathy – “the presence of new blood vessels, with or without vitreous hemorrhage. It is a progression of nonproliferative retinopathy.”

- Diabetic nephropathy is outlined as persistent proteinuria. It will reach overt nephropathy, which is characterized by a markable decline in renal function leading to end-stage renal failure.
- Neuropathy – It is a heterogeneous condition related to nerve pathology.

Neuropathy is classified based on of the nerves got affected. This includes “focal, diffuse, sensory, motor and autonomic neuropathy”.

Macrovascular complications:

Coronary artery diseases, diseases of peripheral arteries, and cerebrovascular are the major macrovascular complications in diabetic patients. In the early stages of macrovascular complications commonly found that "the atherosclerotic plaque in the vasculature supplying blood to the heart, brain, limbs, and other organs". Complete obstruction of these vessels can result in advanced stages of macrovascular complications. In advanced stages, the risk of "MI, stroke, claudication, and gangrene" will be more. Among diabetes patients' main reason for morbidity and mortality is cardiovascular diseases.

Prevalence:

Retinopathy:

Among the patients of type 1 DM, retinopathy has been reported in 13% of patients at 5 years, at 10 to 15 years, this proportion was 90%. Proliferative retinopathy was reported in 25% of cases after 15 years.[16]

Among patients of type 2 DM, 40 % of the cases, who were having insulin had developed retinopathy at 5 years, whereas this proportion was 24% among patients having oral hypoglycemic agents. These proportions reached 84% and 53%, respectively, after 15 to 19 years.2% of DM patients for more than 5 years got proliferative retinopathy and it was seen in 25% among patients of diabetes for more than 25 years.[17]

Nephropathy:

Diabetic nephropathy is one of the major causes of "end-stage renal disease". In type 1 DM patients, nephropathy was seen in 30% cases, and among 5% to 10% of type 2 DM, it leads to uremic.[17]

Neuropathy:

At 1 year the prevalence of neuropathy was 7% among patients with diabetes, and it reaches to 50% at "25 years for both type 1 and types 2 DM".[18]

Macrovascular complications:

The risk of "coronary artery disease (CAD), peripheral arterial disease, and cerebrovascular diseases" will be 2 to 4 times more among diabetes patients than normal people.[19] In the American population, out of all ischemic strokes reported 37% to 42% were seen in diabetes, alone or in combination with hypertension.[20] 34% of men, as well as women with diabetes, are affected by CAD or stroke. Among the diabetes patients aged 30 or above, the prevalence of the peripheral vascular disease is 26%.[21]

Pathophysiology:

Retinopathy:

In diabetic retinopathy, Microaneurysm formation is the earliest manifestation. It may be due to the "release of vasoproliferative factors, weakness in the capillary wall, or increased intra-luminal pressures". Vascular permeability in the macula due to microaneurysms may cause macular edema, which affects central vision. Intraretinal microvascular abnormalities were caused by obliteration of retinal capillaries., Intraretinal hemorrhages were developed as the capillary closure becomes extensive.

Proliferative retinopathy:

Ischemia and the release of vasoactive substances lead to the development of proliferative retinopathy. The friable vessels erupt from the surface and continue to grow towards the posterior surface of vitreous humor which contracts and causes vitreous hemorrhages, leading to retinal detachment.

Nephropathy:

There are two types of pathophysiologic pathways for diabetic nephropathy.

1) Diabetic nephropathy results from the increased glomerular capillary flow, which causes increased extracellular matrix production, endothelial damage, increased glomerular permeability to macromolecules, and this mesangial expansion and interstitial sclerosis, leads to glomerular sclerosis.

2) Nonalbuminuric renal impairment is caused by repeated macrovascular, unresolved episodes of acute kidney injury. A decrease in the levels of glomerular filtration rate (GFR) and albumin are considered as risk factors for cardiovascular events. Predicted death and progression to end-stage renal disease are less in albuminuria when compared to GFR loss.

Neuropathy:

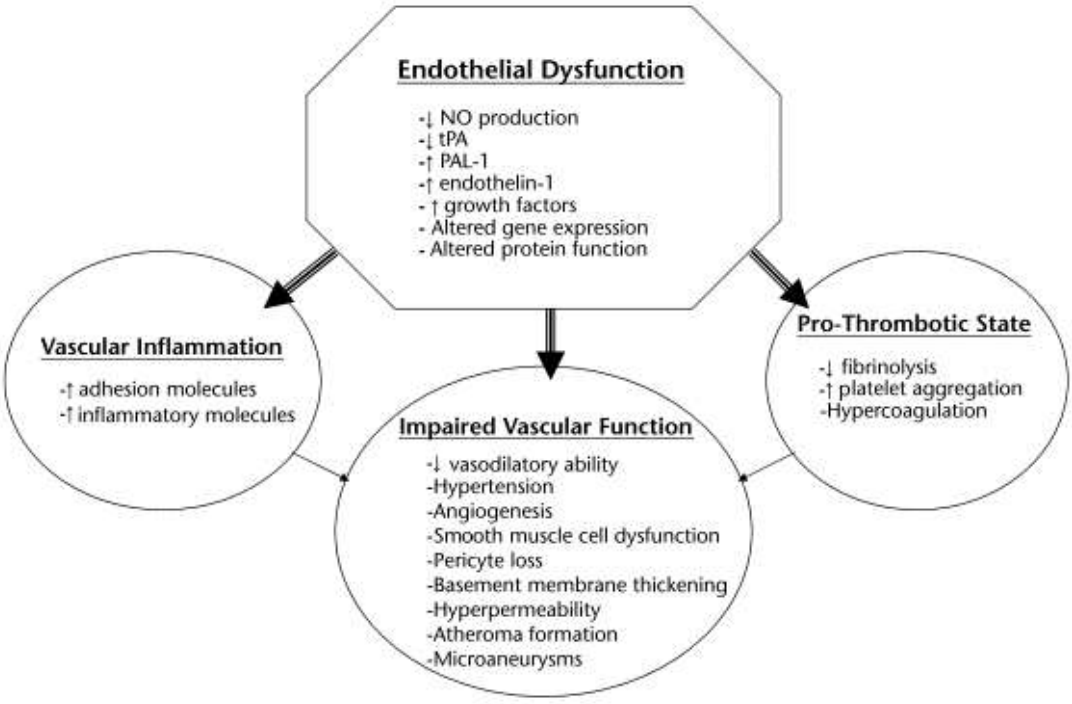
The pathophysiology behind the neuropathy of diabetes is quite complex. As known, diabetes is related to dyslipidemia, hyperglycemia, low insulin and growth factor abnormalities causing glycation of blood vessels, and nerves. Injury and nerve compression cause structural nerve damage, including segmental demyelination, axonal atrophy & loss, and finally, progressive demyelination leading to neuropathy.

Macro vascular complications:

Hyperglycemia, excess free fatty acid, and insulin resistance cause macrovascular complications of diabetes causing increased oxidative stress, protein kinase activation, and activation of the receptor for advanced glycation end products and effects on factors that act on the endothelium. There are three pathways to explain this process.

- In the first pathway, there is reduced nitric oxide, elevated endothelin, and angiotensin II causing vasoconstriction resulting in hypertension &vascular smooth muscle cell growth.
- In the second pathway, there is reduced nitric oxide followed by activation of nuclear factor-KB, elevated angiotensin II, and activation of protein-1 causing inflammation and releasing mediators like chemokines, cytokines, and expression of cellular adhesion molecules.
- In the third pathway, there is again reduced nitric oxide, elevated tissue factor, plasminogen activator inhibitor-1, and decreased prostacyclin, resulting in thrombosis, hypercoagulation, platelet activation decreased fibrinolysis.

Figure 1: These pathways lead to atherosclerosis, the potential cause of macrovascular complications in diabetes.[22]



Potential mechanisms for diabetes-associated vascular abnormalities.

NO=nitric oxide, tPA-1=tissue plasminogen activator-1, PAI-1=plasminogen activator inhibitor-1.[22]

➢ GLYCOSYLATED HAEMOGLOBIN

Glycosylated hemoglobin is the average blood glucose level during the previous eight to twelve weeks. There is a positive relationship observed between the glycosylated hemoglobin and the concentration of glucose in the blood.[23] In diabetic patients, it is the best index for long term glucose level. There is an association found between glycosylated haemoglobin, atherosclerosis, diabetes, cardiovascular disease, and all-cause mortality in the adult population without diabetes in epidemiological studies. [24]

When the conditions are physiologically favorable, the proteins are frequently glycated during the various enzymatic reactions. In the case of hemoglobin, the glycation occurs by the non-enzymatic reaction between the glucose and the N-terminal end of the β chain, which causes the formation of a Schiff base.[25, 26] The Schiff base is converted into amadori products during the rearrangement, of which the best known is HbA1c. The HbA1c and the blood glucose interact to form aldimin in a reversible reaction during the primary step of glycated haemoglobin formation. The adimine is gradually converted into the stable ketoamine form during the secondary irreversible step.[27]

The major sites of hemoglobin glycosylation are the β-Val-1, β-Lys-66, and α-Lys-61. Normal adult hemoglobin consists predominantly of HbA (α2β2), HbA2 (α2δ2), and HbF (α2γ2) in the composition of 97%, 2.5%, and 0.5%, respectively. About 6% of total HbA is termed HbA1, which in turn is made up of HbA1a1, HbA1a2, HbA1b, and HbA1c fraction.

The most abundant of these fractions is the HbA1c. The aldimine is formed when the glucose in the open-chain format binds to the N-terminal before undergoing an amadori reaction to form a more stable ketoamine. This is an in-vivo continuous non-enzymatic process. The average plasma glucose increases it does the amount of glycated hemoglobin in the plasma. This specific characteristic of the hemoglobin is used for estimating the average blood glucose level over the previous 2 to 3 weeks. [28]

Table 5: HbA1c range.

Normal	<5.6%
Pre-diabetic	5.7%-6.4%
Diabetic	>6.4%

Figure 2: The relation between mean blood glucose concentration and glycated hemoglobin values (A1C).

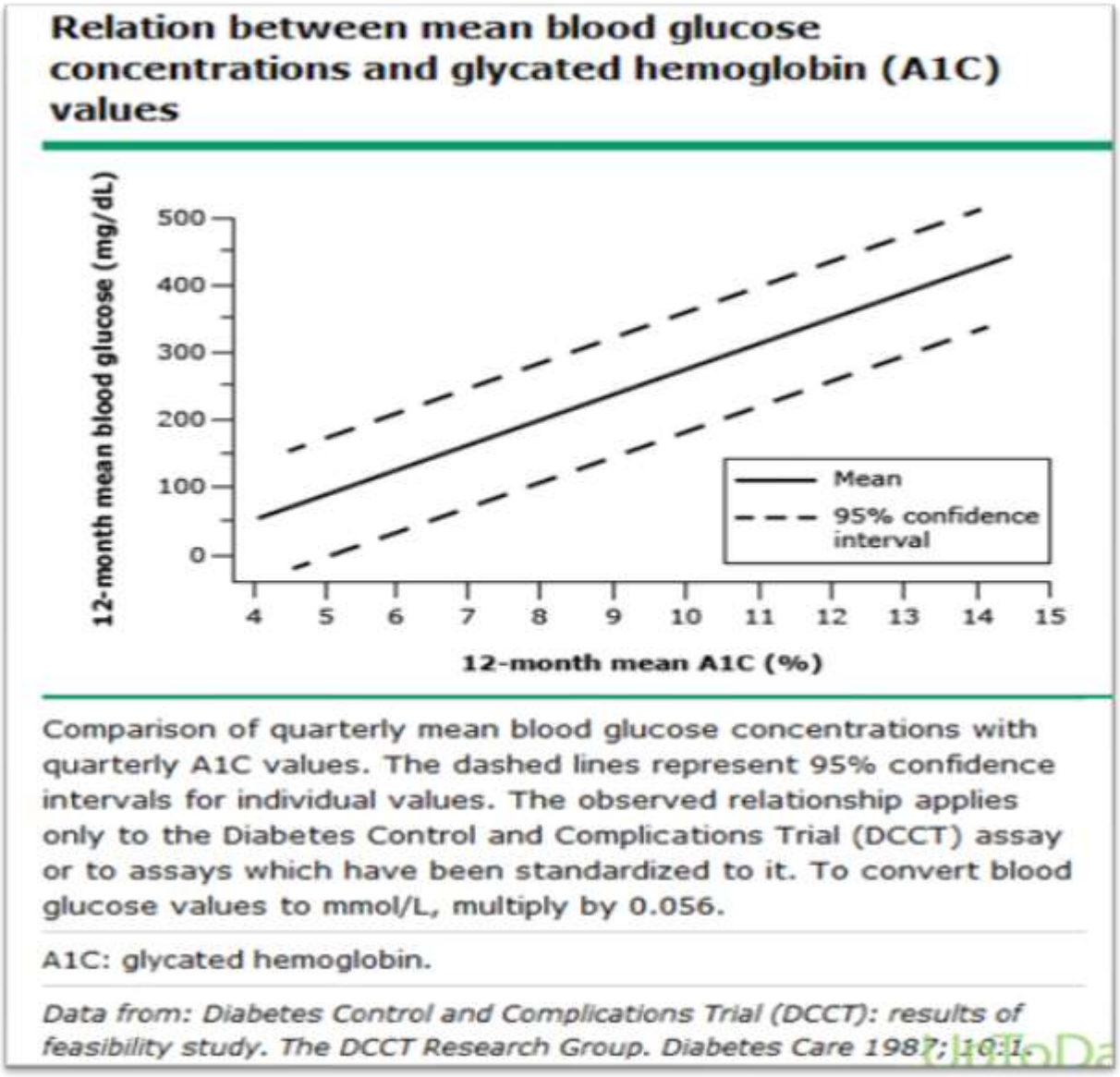
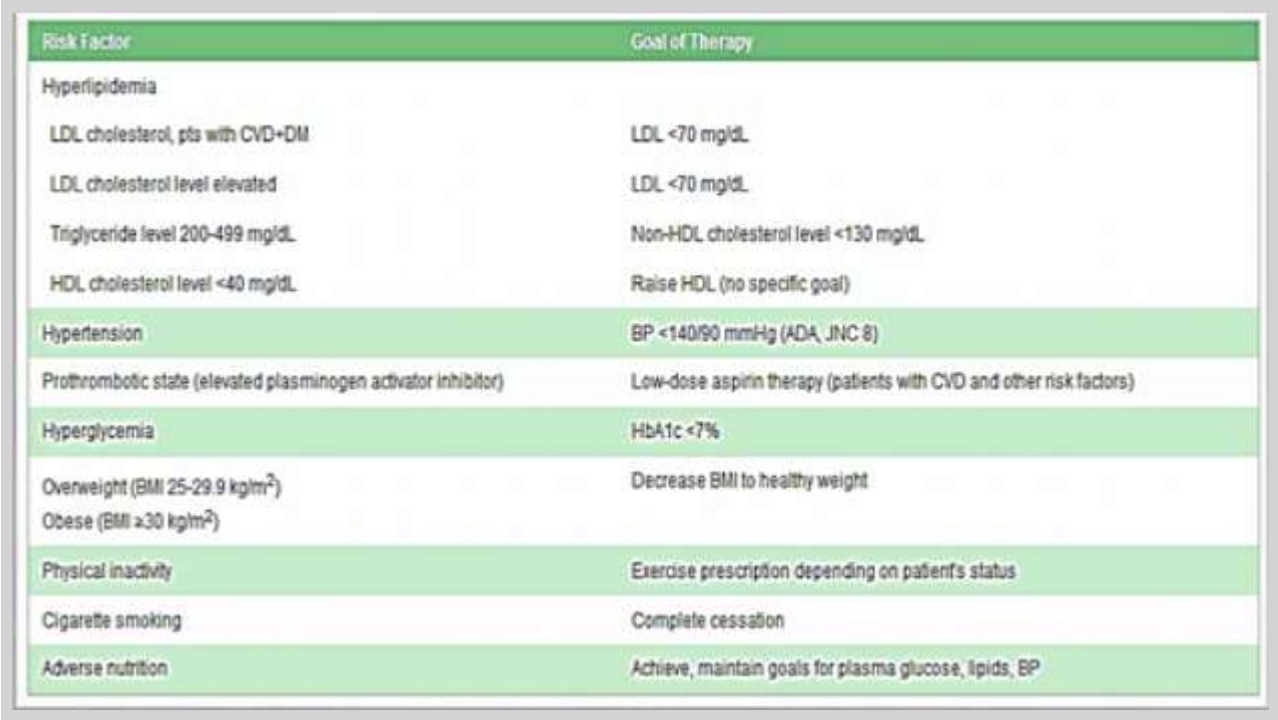


Figure 3: CVD risk factors in patients with diabetes-goals for managing them adapted from ADA and JNC 8.[29, 30]



Risk Factor	Goal of Therapy
Hyperlipidemia	
LDL cholesterol, pts with CVD+DM	LDL <70 mg/dL
LDL cholesterol level elevated	LDL <70 mg/dL
Triglyceride level 200-499 mg/dL	Non-HDL cholesterol level <130 mg/dL
HDL cholesterol level <40 mg/dL	Raise HDL (no specific goal)
Hypertension	BP <140/90 mmHg (ADA, JNC 8)
Prothrombotic state (elevated plasminogen activator inhibitor)	Low-dose aspirin therapy (patients with CVD and other risk factors)
Hyperglycemia	HbA1c <7%
Overweight (BMI 25-29.9 kg/m^2) Obese (BMI ≥30 kg/m^2)	Decrease BMI to healthy weight
Physical inactivity	Exercise prescription depending on patient's status
Cigarette smoking	Complete cessation
Adverse nutrition	Achieve, maintain goals for plasma glucose, lipids, BP

- **CORONARY ARTERY DISEASE:**

Definition:

Coronary artery disease is caused by the build-up plaques, a waxy substance inside the lining of larger coronary arteries. The blood flow in the large arteries of the heart can be blocked partially or totally by these build-ups. Obstructive coronary artery disease, non-obstructive coronary artery disease, and microvascular coronary disease are the three types of coronary artery disease. Tiny arteries in the heart muscles are affected by microvascular coronary disease. Age, sex, family history, and lifestyle are the risk factors for coronary artery disease.

Epidemiology:

The incidence of CAD is increasing in developing countries. India is on the verge of a "cardiovascular disease" epidemic. The incidence of CAD has more than doubled in the past 2 decades in India. In the year 1990, there was an estimated death of around 1.17 million due to CAD in India, and by the year 2010, the number has almost doubled to 2.03 million. Around 23% of CAD deaths occur below the age of 70 in Western countries. While in India, 52% of CAD deaths occur among people over 72 years of age. The burden of CAD in India is mainly due to its large population and increased prevalence of CAD risk factors.[4]

The worldwide burden is expected to reach 47 million disability-adjusted life years by the year 2020 as per the World Health Organisation. In the US, around 9,00,000 subjects die or were affected by CAD or its complications in 2016. One-third of the deaths in both the developed and developing countries in people over 35 years of age is due to CAD with a percentage reach close to 50% in the western countries.[31]

Diagnosis:

In all the patients with suspected angina resting electrocardiography should be performed. The diagnosis of angina is favored by the electrocardiographic evidence of ST-T wave changes or LV hypertrophy, and prior Q wave MI on electrocardiography is highly indicative of underlying coronary artery disease. In patients with stable angina various conductive disturbances, most commonly left bundle branch block is observed. It is associated with impairment of LV function and reflect multivessel disease or previous myocardial damage. Around 50% of the patients with normal findings on the resting electrocardiography develop electrocardiographic abnormalities. ST-segment depression is the most common findings among them.

Non-invasive tests are useful in patients with an intermediate pretest probability of CAD because, in such patients, the results of the stress test will have the greatest effect on the post-test probability and clinical management. Exercise electrocardiography is a good initial choice in patients who can exercise and who have many electrocardiographic findings at rest. If the patient is unable to perform the exercise, a pharmacological imaging test can be preferred.

In patients with LBBB or ventricular paced rhythm, adenosine or dipyridamole nuclear perfusion imagining is the preferred choice of diagnosis. Magnetic resonance imaging is the new stress imaging technique that can be used for both adenosine perfusion and dobutamine wall motion imaging. Invasive coronary angiography can be used for the diagnostic purpose in patients who have survived sudden cardiac deaths, patients with a high pretest probability of having left main or 3 vessel disease and in patients who cannot undergo invasive testing.[32]

Table 6: Non-invasive stress tests for the diagnosis of coronary artery disease.

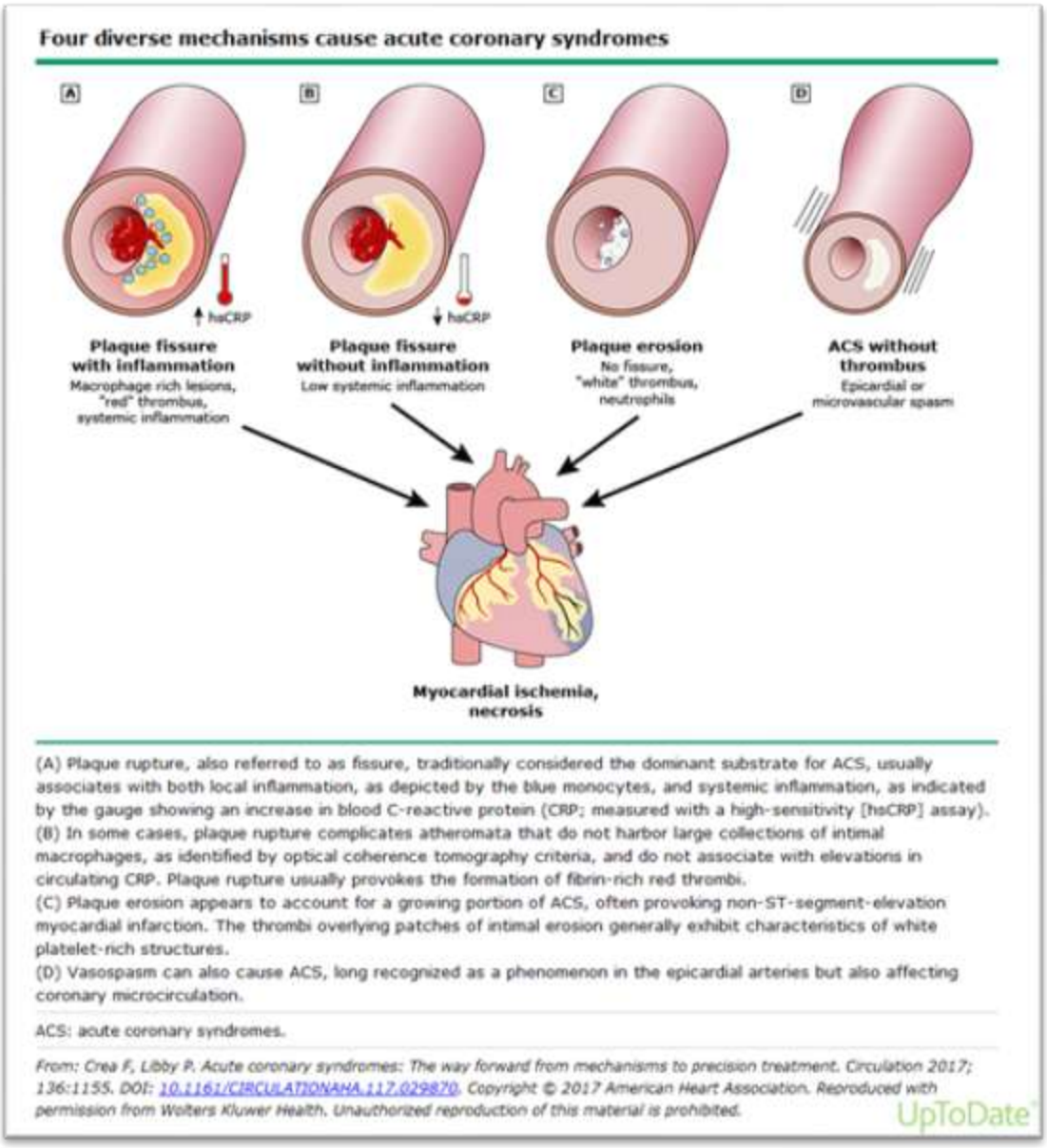
Non-invasive tests	Specificity	Sensitivity
Exercise electrocardiography	0.77	0.68
Exercise SPECT	0.73	0.87
Adenosine SPECT	0.75	0.89
Adenosine PET	0.86	0.89
Exercise echocardiography	0.81	0.86
Dobutamine echocardiography	0.84	0.82
Dobutamine magnetic resonance imaging	0.84	0.89
Adenosine magnetic resonance imaging	0.85	0.84

ACUTE CORONARY SYNDROME:

INTRODUCTION The term acute coronary syndrome (ACS) is applied to patients in whom there is a suspicion or confirmation of acute myocardial ischemia or infarction. Non-ST-elevation myocardial infarction (NSTEMI), ST-elevation MI (STEMI), and unstable angina are the three traditional types of ACS. However, the widespread use of the high-sensitivity troponin test has changed the diagnosis of unstable angina to NSTEMI in almost all patients formerly diagnosed with unstable angina. This has occurred because those patients formerly called unstable angina have abnormally elevated high-sensitivity troponin values. Traditionally, unstable angina was defined as clinical and electrocardiographic (ECG) findings in the absence of an elevated biomarker level. Few if any patients with clinical and ECG evidence of myocardial ischemia have normal high-sensitivity troponin levels. Indeed, they demonstrate elevated levels of this biomarker, thus confirming the presence of myocardial cell death induced by ischemia. Almost all of these patients do not show a STEMI pattern on their ECG, and so they should be diagnosed as an NSTEMI.[33]

While some of the rationale to classify ACS patients as having NSTEMI or STEMI is historical, the central reason is that the clinical management for each of these differs. DEFINITION OF MYOCARDIAL INFARCTION-The 2018 a joint task force of the European Society of Cardiology (ESC), American College of Cardiology Foundation (ACCF), the American Heart Association (AHA), and the World Health Federation (WHF) defined MI, whether STEMI or NSTEMI, as the presence of acute myocardial injury detected by abnormal cardiac biomarkers in the setting of evidence of acute myocardial ischemia[34]. The joint task force further refined the definition of MI by developing a clinical classification according to the assumed proximate cause of the myocardial ischemia.

Figure 4: Pathogenetic classification of acute coronary syndrome.



➢ ASSOCIATION BETWEEN CAD AND DIABETES

Diabetes is one of the risk factors for "cardiovascular diseases" which include retinopathy, nephropathy, peripheral vascular disease, stroke, and coronary artery disease. It also affects the heart muscles causing both systolic and diastolic heart failure.[35]

Among the adult population with diabetes mellitus, the prevalence for hypertension is 75 to 85% whereas, for increased LDL and obesity are 70-80% and 60-70% respectively. Diabetes mellitus is associated with a 2-4 fold increased mortality rate from heart disease.[36] The prevalence of death in people over 65 years of age due to some form of heart disease or stroke is around 70%.[37]

There is increased mortality after myocardial infarction in patients with diabetes mellitus and worse overall long-term prognosis with coronary artery disease.[38, 39] In the United States, one-third of all percutaneous coronary intervention procedures and 25% of patients undergoing coronary artery bypass graft surgery are performed on patients with diabetes mellitus.[40] The outcomes of these procedures are less effective in patients with diabetes mellitus as compared to patients with no diabetes.[2]

Diabetic patients exhibit a high risk for the development of atherosclerotic coronary artery disease mainly due to metabolic factors such as the hyperglycemia, dyslipidemia, and insulin resistance which can lead to the endothelial cell, vascular smooth muscle dysfunction, 6,6 impaired platelet function, and coagulation abnormalities. Diabetes mellitus also increases the risk factors for coronary artery disease, such as hypertension and obesity. Diabetic patients have lipid-rich atherosclerotic plaques which are more vulnerable to rupture as compared to the plaques in non-diabetic patients.[41]

- **Association between severity of CAD as measured by CAG and levels of HbA1c**

Among the people with diabetes mellitus, cardiovascular disease is the main cause of death and disability. The risk of cardiovascular disease increases with the rise in fasting plasma glucose levels.[9] HbA1c which reflects the average plasma glucose level for several months before the previous examination. It is used as a parameter for glycaemic control in many epidemiological studies. They have reported an association between HbA1c and chronic

complications of diabetes mellitus. Furthermore, there is an association between increased levels of HbA1c and the presence of coronary atherosclerosis and atherosclerosis burden. Few studies indicate the relationship between HbA1c and atherosclerosis in non-diabetic patients.[42]

An increased level of HbA1c is associated with further risk for microvascular and macrovascular diseases. Glycaemic control can lower the incidence of microvascular complications in both type 1 and type 2 diabetes mellitus. A recent report indicates that an increase in the level of HbA1c can be used as a predictor for cardiovascular diseases and mortality in patients without diabetes mellitus.[7]

Ayhan S.S. et al[43], conducted a study of 211 participants. The purpose of the study was to determine the relationship between glycated hemoglobin levels and the severity of "coronary artery disease" in < 40 years old patients. Gensini scoring system was used to assess the severity of CAD. The participants were grouped into premature coronary atherosclerotic patients and controls. The mean age of the study population was 36.4 ± 2.5 years. The serum HbA1c levels showed a statistically significant difference between the groups. There was a positive correlation between the HbA1c levels and Gensini score in pCAP. The independent risk factor for the presence of severe CAD was the HbA1c levels. In ROC curve analysis, the optimal cut-off value of HbA1c to predict severe CAD was 6.52%, with sensitivity and specificity of 74.4% & 75.1 percentage respectively. The study findings had concluded that the "glucose metabolism abnormalities", indicated by HbA1c, can play an important role in premature CAD.

Dubey T. et al[3], performed an observational prospective study in 110 subjects. The objective of the study was to evaluate the relationship between HbA1c levels with mortality, morbidity, and severity in patients with acute coronary syndrome. Performa was used to collect detailed

history, examination, and investigations. ECG, CPK-MB, echocardiography were performed in all patients while coronary angiography in half of the patients. The study results revealed that 58.17 ± 9.87 was the mean age of the study population. The prevalence of non-diabetic and diabetic were 57.2% and 24.5%. Impaired glucose tolerance and hypertension were observed in 18.2% and 41.8% respectively. The left ventricular dysfunction and heart failure were the most common complications. These complications were more in diabetic patients as compared to the non-diabetics. The mean HbA1c level in patients with complications was 6.61 ± 2.13 whereas, in patients without complications was 5.90 ± 1.27. The present study concluded that the patient with ACS should be screened for diabetes and glucose intolerance.

Dutta B. et al[7], conducted a prospective study of 346 participants. The purpose of the study was to determine the correlation between HbA1c level and severity of CAD in non-diabetic patients using the SYNTAX score in CAD patients. Based on the HbA1c levels, the participants were divided into four groups, less than 4.8%, 4.8% to 5.1%, 5.1% to 5.6%, and 5.6% to 6.5%. SYNTAX score and the number of coronary vessels diseased were used to assess the severity of CAD. The study results revealed that 58.1±10.4 years was the mean age of the study population. The majority of the participants were males with 91.9%. Hypertension was present in 44.8% of patients while dyslipidemia in 34.7%. Around 29.2% of the population were smokers. There was a significant difference observed between the CAD severity by SYNTAX score and the number of vessels involved among the groups. Also, there was a strong correlation noticed between the increase in HbA1c level, disease severity and higher SYNTAX score. The mean number of diseased vessels increased with the increase in HbA1c level. The independent predictor of severity of CAD by SYNTAX score was smoking. The present study concluded that a significant correlation exists between HbA1c and severity of CAD by SYNTAX score as well as the number of vessels involved in non-diabetic patients.

Emara A. et al[44], performed a study on 80 patients. The objective of the study was to determine the relationship between glycated hemoglobin, and the complexity of coronary artery lesions. The "syntax score" was used to assess the complexity of the "coronary artery lesions". The association between the measured HbA1c levels, and syntax score was analyzed using the logistic regression, and correlation coefficient. The study results revealed that 60 ± 8.1 years was the mean age of the study population. There was a significant association between the increased HbA1c, and higher syntax score. The independent predictor of the complexity of coronary lesions was the HbA1c levels. The study concluded that the complexity of coronary artery lesions was significantly correlated with HbA1c among diabetic patients.

Ewid M. et al[5], performed a cross-sectional study on 38 participants. The aim of the study was to assess glycated hemoglobin as a predictor of CAD in low-risk profile non-diabetic patients. The mean blood pressure, BMI, serum cholesterol level and HbA1c levels were 91.2 ± 11.9 mmHg, 28.3 ± 5.8 kg/m^{2,} 174 ± 33.1 mg/dl and 5.7 ± 0.45 respectively. Around 47.4% showed no CAS whereas minimal stenosis, mild stenosis, moderate stenosis and severe stenosis were observed with 31.6%, 7.9%, 7.9% and 5.3% respectively. There was a moderate correlation observed between HbA1c, CAS and the number of affected coronary vessels. Through the present study, it was concluded that glycated hemoglobin can be used as a predictive biomarker for CAD in non-diabetic low-risk patients.

Garg N. et al[45], conducted a single-center, observational, cross-sectional study in 1141 participants. The aim of the study was to identify the association between hemoglobin A(1c) and the presence, severity, and complexity of angiographically proven coronary artery disease in non-diabetic patients. Based on the HbA1c levels, the participants were divided into four groups, (<5.5%, 5.5%-5.7%, 5.8%-6.1%, and >6.1%). The study results revealed that the

patients with higher HbA1c levels were older, overweight, hypertensive, had higher blood glucose levels, and had lower glomerular filtration rates. There was an association observed between the higher HbA1c, presence of CAD, disease severity and disease complexity. The odds ratios of occurrence of CAD in the HbA(1c) quartiles of 5.5% to 5.7%, 5.8% to 6.1%, and greater than 6.1% were 1.8, 3.5, and 4.9 respectively. Through the present study, it was concluded that the HbA(1c) measurement can be used to improve cardiovascular risk assessment in nondiabetic individuals.

Habib S. et al[46], conducted a study on 119 subjects. The aim of the study was to identify the Association between Hemoglobin A1c and the Severity of CAD in Non-diabetic Patients with Acute Coronary Syndrome. The study results revealed that 54 ± 10.2 years was the mean age of the study participants. The severity of CAD was assessed using the SYNTAX score. The linear regression analysis of HbA1c with the SYNTAX score showed no statistically significant correlation between the "SYNTAX score" & HbA1c. Mann-Whitney U test also showed no significant difference in HbA1c between the two groups. The unadjusted and adjusted odds ratio (OR) of HbA1c with 95% confidence intervals (CI) were 1.71 (0.47-2.92), p-value = 0.735 and 0.87 (0.33-2.29), and 0.78, respectively. Authors have concluded that HbA1c is not an independent predictor of the severity of CAD in non-diabetic adult patients.

Ikeda N. et al[47], performed a study on 638 subjects. The purpose of the study was to determine the relationship between HbA1c value and coronary artery lesion complexity. SYNTAX score was used to evaluate the complexity of the coronary artery lesions. The prevalence of an intermediate or high SX score was analyzed using logistic regression analysis. There was a significant association observed between the higher HbA1c quartiles, higher FPG quartiles, and higher "SX score". The association between higher HbA1c quartiles and a higher "SX score" was also identified in "non-diabetic patients". The

independent predictor of the prevalence of complex coronary lesions was the HbA1c levels. The study concluded the association between the HbA1c and the complexity of coronary lesions.

Kamal A. et al[48], performed a study on 150 patients. the purpose of the study was to identify the relationship between the level of glycated hemoglobin, and the severity of CAD among diabetic patients and perform a comparison with non-diabetic patients. During the study period HbA1c level, transthoracic echocardiogram, and coronary angiography were performed in the study population. Based on the cut-off point of HbA1c value of 7%, the diabetic patients were grouped into controlled and uncontrolled. Whereas, non-diabetic patients as low-risk and high-risk groups. The study results revealed that 64.7% of the participants had diabetes mellitus, and 54.7% had hypertension. HbA1c greater than or equal to 7 mg%, with a mean HbA1c of 9.7 ± 2.2 was observed in 74.23% of the patients in the diabetic group. The mean GS score was 41 ± 31.3. HbA1c level is positively correlated with the fasting plasma glucose (, waist-height ratio, regional wall motion score index and GS score in the diabetic group. Whereas, fasting plasma glucose was correlated with the weight in the non-diabetic group. The study concluded that the HbA1c level is a useful biomarker and has prognostic value to predict the severity of CAD in both diabetic and non-diabetic patients.

Kaya H. et al[49], conducted a study of 93 participants. The purpose of the study was to evaluate the relationship between the severity of the coronary artery disease measured with the Gensini score and the hemoglobin A1c (HbA1c) levels in non-diabetic patients with stable angina pectoris. Gensini score was used to classify the participants. Logistic regression analysis was used to determine the associations between severity of "CAD" and HbA1c levels. The study results revealed that the blood glucose readings were observed to be comparable between the groups. HbA1c values were higher in the severe atherosclerosis group with 6.71±5% as

compared with mild atherosclerosis and normal coronary arteries groups with 6.0±0.8 and 5.6±0.6%, respectively. There was a correlation between the HbA1c levels and the Gensini score. HbA1c predicted severe atherosclerosis with a sensitivity and specificity of 54% and 74% with a cutoff value of 6.0%. The independent predictor of severe atherosclerosis was the high level of HbA1c. The study concluded that the high levels of HbA1c can help to predict the increased risk for coronary artery disease.

Liu Y. et al[50], conducted a systematic review of 12 studies. The study aimed to identify the association between elevated HbA1c levels and all-cause mortality among patients hospitalized with CAD. The study results revealed that there was an association observed between the elevated HbA1c and increased short-term and long-term mortality risk. The predictor for the mortality risk in patients without diabetes was the increased levels of HbA1c. A risk-adjusted sensitivity analysis, showed that there was an association between the elevated HbA1c and the high risk of adjusted mortality in patients without diabetes. The present study concluded that the elevated HbA1c level is an independent risk factor for mortality in CAD patients without diabetes. “Syntax score” was used to identify them.

Ma J. et al[51], conducted a prospective study in 3805 patients. The purpose of the study was to identify the relationship between “HbA1c” levels and the complexity of “coronary artery lesions” among older patients with diabetes mellitus. “Syntax score” was used to identify the complexity of the coronary artery lesions. Based on the HbA1c levels, the participants were divided into three groups. The association between the measured HbA1c levels and Syntax score was assessed using the logistic regression and Pearson correlation. The study results revealed that 72.3±10.6 years was the mean age. There was a significant association identified between the increased HbA1c levels and higher Syntax score. The unadjusted correlation coefficient of HbA1c levels and the Syntax score was 0. 371. The independent predictor of

the prevalence of complex coronary lesions was increased HbA1c levels. The study concluded that the HbA1c is significantly associated with the complexity of coronary lesions among older patients with DM.

Mansour MM. et al[52], performed a study of 104 participants. The aim of the study was to evaluate the relationship between the level of HbA1c and the severity of "CAD". During the study period, glycated hemoglobin, haemo-globin, serum creatinine, high-density lipoprotein, low-density lipoprotein, total cholesterol, triglycerides, and creatinine clearance were calculated. Electrocardiogram was performed on the study participants and recorded coronary angiography. Syntax and Gensini scores were calculated among non-diabetic patients. The majority of the participants in the high-risk group were males with 52.1%. The mean age of these subjects was 56.83±7.18 years. They were older, overweight with mean body mass index ± SD of 29.02±5.07, hypertensive, and smokers with 50% and 18.8% respectively. In the low-risk group, 55.4% of the patients were males. They were old age with a mean age ± SD of 55.02± 7.64 years, hypertensive, and smokers with 58.9% and 37.5% respectively. The right coronary artery lesion left circumflex artery lesion, Gensini score and Syntax score as $p<0.001$ showed a high statistically significant difference between the groups. Whereas, the left main lesion as $p<0.05$ showed a statistically significant difference between the two groups. The HbA1c was positively correlated with the Gensini score and Syntax score. The accuracy of Gensini score equals "85% "with "sensitivity", and specificity of 81.2% and 83.9% at the cut off predictive value <59 to discriminate between the two groups while the accuracy of Syntax score equals 88% with sensitivity & specificity of 87.5% and 91.1% at the cut off predictive value <12 to discriminate between the two groups. The study concluded the positive correlation between the level of glycated hemoglobin and the severity of CAD, which was assessed by Syntax score and Gensini score in non-diabetics.

Narayana R. et al[53], conducted a case-control study in 60 cases. The purpose of the study was to identify the association between HbA1c and acute coronary syndrome in type 2 diabetic patients. The participants were grouped into diabetic patients with ACS and diabetic patients without evidence of ACS. The mean age of the participants in group A and group B was 64.22 ± 6.39 years and 64.48 ± 6.57 years, respectively. Duration of diabetes in group A and group B were 9 ± 5.75 years and 9.2 ± 5.45 years. There was a significant association identified between the HbA1c level and ACS. The difference in HbA1c level between the groups was highly significant in both the groups. The study concluded that the occurrence of ACS was significantly more in patients with an HbA1c level of more than 7% when compared with patients with an HbA1c level of less than 7%. Of ACS was significantly more in patients with an HbA1c level of more than 7% when compared with patients with HbA1c level less than 7%.

Rebnord EW. et al[54], conducted a prospective cohort study in 2519 subjects. The aim of the study was to evaluate the glycated hemoglobin and long-term prognosis in patients with suspected stable angina pectoris without diabetes mellitus. Major coronary events were the primary endpoints, whereas death from cardiovascular disease and all-cause mortality were the secondary events. The study results revealed that 62 years was the median age of the study population. The majority of the patients were males with 73%. The median HbA1c and random plasma-glucose were 5.6% and 5.4mmol/L. There was no association identified between the HbA1c levels within the pre-diabetic range, risk of major coronary events, HR, death from CVD, or all-cause mortality HR. Similarly, HbA1c values within the lowest category were not associated with the risk of study outcomes. The study concluded the independent role of glycemia in the pathogenesis of atherosclerotic complications in the study population.

Sahal N. et al[6], conducted a study of 408 participants. The purpose of the study was to evaluate the correlation between the level of Glycated hemoglobin and the severity of coronary artery disease in non-diabetic patients. During the study period, a transthoracic echocardiogram and coronary angiography were performed on the study participants. The two-tailed unpaired Student *t*-test for continuous variables was used to compare the high and low-risk groups and the Pearson's chi-square test for categorical variables. The study results revealed the high-risk group and low-risk group with 71.6% and 28.4% respectively. The mean HbA1c in the high-risk group was 6.1 ± 0.3. The mean Gensini score was 39.9 ± 34.9. There was a positive correlation between the gensini score and RWMSI, whereas a negative correlation with LVEF. Through the present study, the correlation between the level of Glycated hemoglobin and the severity of coronary artery disease is concluded.

Singh S. et al[55], conducted an observational cross-sectional study in 100 patients. The purpose of the study was to identify the impact of HbA1c levels on the severity and complications of ACS in non-diabetics. The troponin T value, electrocardiogram, and echocardiography were used to confirm the diagnosis of ACS. The study participants were grouped into Group 1 HbA1c <5.6 (36, 36%), Group 2 HbA1c between 5.7 and 6.4 (64, 64%). ECG changes (ST-segment elevation myocardial infarction or non-ST-segment elevation myocardial infarction), troponin T value, regional wall motion abnormalities and left ventricular ejection fraction on echo, along with the complications such as heart failure and arrhythmias were the major outcomes in the study population. Multiple regression analysis was used for the data analysis. The study results revealed that 58.67 years was the mean age of the patients. The majority of the patients were males, with 69% followed by females with 31%. Around 28% of the patients were smokers, 33% hypertensive, and 32% dyslipidemia. The body mass index was ≥25 kg/m^2 in 9% of the subjects. The study concluded that the HbA1c is a predictor of major adverse outcomes in ACS in patients even in nondiabetics.

Taimur SDM. et al[56], conducted a cross-sectional study of 100 patients. The aim of the study was to determine the relationship between HbA1c level and severity of "CAD" among hospitalized patients with ACS. Among the study population, fifty were diabetic, and the rest were non-diabetics. The study results revealed that 58.54±10.22 years and 54.52±13.69 years were the median age of the patients in group A and group B. Mean age of the males were 57.72±11.48 years whereas, the mean age of females was 54.0±13.08 years. Mean HbA1c of patients in group-A and group-B were 11.43±1.43% and 6.34±0.915% respectively. Triple vessel disease was observed with 38% and 22% in group A and B whereas double vessel disease with 26% and 20% and single-vessel disease with 28% and 18%. The incidence of coronary artery disease was more in the patients of age group 46-50 in group-A with 48%. There was a significant relationship identified between the patients of group A and coronary artery disease and six times greater coronary artery disease than patients of group-B. The study concluded that the elevated HbA1c level was a risk factor for the severity of "CAD" in ACS patients.

Ul-Haque I. et al[1], conducted a study of 555 participants. The objective of the study was to indicate that rising HbA1c levels suggest that there's a greater risk of coronary artery disease, which can further be confirmed by the SYNTAX score, degree of stenosis, and numbers of vessels involved. SYNTAX score, hypertension, number of vessels involved, and other demographic elements, such as age, smoking, and body measurements were calculated and compared between the diabetic and non-diabetic groups. The predictor for SYNTAX score ≥23 in diabetic patients was the age >53. The independent predictors for "three-vessel disease" in the non-diabetic population were the male gender and smoking. Through the study, it was concluded that there is no correlation between elevated HbA1c levels and SYNTAX score ≥23

Wei F. et al[57], conducted a study of 196 participants. The aim of the study was to determine the clinical influence of the changes in glycosylated hemoglobin level of patients with diabetes on hypertension and coronary heart disease. The participants were divided into the control group and the observation group. There was no significant difference observed between the levels of total cholesterol, triglyceride, and low-density lipoprotein cholesterol of patients in the two groups. The level of high-density lipoprotein cholesterol of patients in the observation group was significantly lower as compared to the control group. While, the Systolic Blood Pressure and diastolic blood pressure, fasting plasma glucose, fasting insulin, and levels of high-sensitivity C-reactive protein and HbA1c of patients in the observation group were higher as compared to the control group. The level of HbA1c was higher in patients with hypertension as compared to patients without hypertension. The level of HbA1c coronary heart disease patients was apparently higher as compared with patients without coronary heart disease. There was a positive correlation observed between the HbA1c and SBP, DBP, and level of Hs-CRP. The study concluded that detecting the level of glycosylated hemoglobin is of important significance in screening patients with hypertension and coronary heart disease.

Kapil, C et al[58], focused on the role of carotid intima-media thickness (CIMT), glomerular filtration rate (eGFR) and serum glycosylated hemoglobin (HbA1c) levels in predicting CAD on coronary angiography in non-diabetic patients. CAD and its severity according to SYNTAX score (SX score) was evaluated in 450 non-diabetic patients hospitalized with an acute coronary syndrome or stable angina and underwent coronary angiography. CIMT, eGFR, and serum HbA1c values were obtained during admission. Spearman correlation and linear regression were used in the analysis of the data. Statistically significant positive correlation was observed between HbA1c (r: 0.242, $p = 0.001$); CIMT (r: 0.231, $p = 0.001$), patient's age (r: 0.148, $p = 0.002$) and SX score, whereas eGFR was negatively correlated (r: -

0.148, $p = 0.002$). On regression analysis, CIMT, eGFR, HbA1c and patient's age collectively predicted 36% of the change in the SYNTAX score. Patient's age > 56 years (AUC = 0.622), CIMT > 0.86 mm (AUC = 0.642), HbA1c > 6 (AUC = 0.620), eGFR < 92 ml/min/1.73 m^2 (AUC = 0.601) were the cutoff values on ROC curve analysis. CIMT, HbA1c had relatively high specificity (88.5%, 90.2% respectively), and eGFR had relatively high sensitivity (71.3%) among the studied variables in predicting CAD in the present study. Study findings have revealed a positive predictor relationship between HbA1c and cardiovascular disease.

Bharath S et al[59], aimed at studying the extent and complexity of cardiovascular lesions among diabetic patients and compare the same with non-diabetic patients. The case group consisted of 250 Diabetic patients with cardiac symptoms, with or without ECG changes, who have undergone coronary angiography. And Control group consisted of 250 Nondiabetic patients with cardiac symptoms, with or without ECG changes, who have undergone coronary angiography. Among diabetics, there were 52.8% male patients and 47.2% female patients, similarly among the non-diabetic group, 57.2% were males, and 42.8% cases were females. 12.4% of people were found normal, 37.6% were suffering from Single vessel disease, 28.8% people with Double vessel disease, and 21.2% people with Triple vessel disease. Authors have concluded that among coronary angiography diagnosis, severe forms of coronary artery lesions were found common among diabetic patients as compared to non-diabetic patients.

Kamal A et al[48], assessed the relationship between the level of glycated hemoglobin (HbA1c) and the severity of "CAD" among diabetic patients and performed a comparison with nondiabetic patients. The study included 150 patients referred to coronary angiography. In addition to the routine evaluation, assessment of HbA1c level, transthoracic echocardiogram, and coronary angiography were performed, and the Gensini score (GS) was calculated.

Diabetic patients were classified as controlled and uncontrolled based on the cut-off point of HbA1c value of 7%. Nondiabetic patients were classified as low-risk and high-risk groups. Among the patients, 64.7% had diabetes mellitus, and 54.7% were hypertensive. Also, 74.23% of the patients in the diabetic group had HbA1c greater than or equal to 7 mg%, with a mean HbA1c of 9.7 ± 2.2. The mean GS was 41 ± 31.3. There was a significant positive correlation between the level of HbA1c and fasting plasma glucose (r = 0.454, P = 0.000), waist-height ratio (r = 0.19, P = 0.045), regional wall motion score index (r = 0.23, P = 0.019), and GS (r = 0.312, P = 0.049) (in the diabetic group). Also, in the nondiabetic group, there was a significant correlation between HbA1c, GS (r = 0.448, P = 0.032), fasting plasma glucose (r = 0.470, P = 0.000), and weight (r = 0.264, P = 0.046). HbA1c level is a useful biomarker and has prognostic value to predict the severity of CAD among diabetic and nondiabetic patients.

Dar, M.I et al[60], aimed to study the prevalence of type 2 diabetes mellitus (T2DM) and the relation of HbA1c with the severity of CAD in patients presenting as non-diabetic ACS. The diabetic status of the patients was assessed with fasting blood sugar (FBS) and HbA1c levels, and coronary artery disease burden was assessed by coronary angiography. Out of 208 patients, 85.1% were males, and 14.9% were females; 73.56% cases were hypertensive. 80.77% of cases had STEMI, 17.79% had NSTEMI, and 1.44% had unstable angina. Out of 168 STEMI patients, 64.3% were thrombolysis, 21.42% presented late, 2.38% had contraindications to thrombolysis, and 11.9% underwent primary PCI. FBS in the diabetic range was found in 44.23% of cases, impaired FBS in 36.54%, and 19.23% of patients had FBS in the non-diabetic range. According to HbA1c, 41.8% were diabetic, 39.4% were pre-diabetic, and 18.8% were non-diabetic. A significant positive correlation was found between HbA1c and Gensini score and between HbA1c and the number of vessels involved. This study emphasizes the importance of evaluating the presence of diabetes in patients presenting

as non-diabetic acute coronary syndrome in developing countries. Acute coronary syndrome may be considered as one of the presentations of diabetes mellitus.

LACUNAE IN LITERATURE:

There have been few studies that have shown HbA1c to be predictive of CAD in non-diabetes, but only in limited studies. The role of glycosylated hemoglobin in predicting the outcome of acute coronary syndrome remains largely controversial. Much lesser is known of its importance in non-diabetics

MATERIALS & METHODS

MATERIALS & METHODS

Study site: This study was conducted in the department of General Medicine at Sri Devaraj Urs Academy of Higher Education and Research, Kolar.

Study population: In this study, patients undergoing coronary angiogram at R.L. Jalappa hospital-Narayana heart centre attached to SRI DEVARAJ URS MEDICAL college, Tamaka, Kolar, between January 2019 and June 2020, after obtaining the approval from Institutional Ethics Committee were considered as the study population.

Study design: The was a descriptive observational cross-sectional study

Sample size: Sample size with an estimated base with differences observed in multivessel disease in type 2 diabetes with CAD and nondiabetics with CAD, to observe a difference of min 14% in multivessel disease in diabetes and non-diabetes as per the study by Tong-guo et al.[61] with 80% power, 95%confidence, the estimated sample size per group is 194.

H: P1=P2; H: P1≠P2

$$\underline{n = \mathrm{Z}\,1 - \frac{\mathrm{a}}{2}\sqrt{2\mathrm{P}(1-\mathrm{P})} + \mathrm{Z}1\text{-}\beta\sqrt{\mathrm{P}1(1-\mathrm{P}1) + \mathrm{P}2(1-\mathrm{P}2)}}$$

$$(\mathrm{P}1 - \mathrm{P}2)$$

Where $\mathrm{P}\breve{} = \frac{P1+P2}{2}$

P1: proportion in the first group

P2: proportion in the second group

α: significance level

1-β: power

Sampling method: All the eligible subjects were recruited into the study consecutively by convenient sampling till the sample size is reached.

Study duration: The data collection for the study was done between January 2019 to June 2020 for a period of 1.6 years.

Inclusion Criteria:

1. All patients undergoing coronary angiogram for suspected CAD.
2. Diabetics and non-diabetics with hypertension are included in this study.
3. Nondiabetics found to be prediabetic are included in this study.

Exclusion criteria:

1. Presence of valvular disorders.
2. Presence of congenital heart disease.
3. History of past coronary revascularization, or heart failure.
4. Uncontrolled arrhythmia.
5. h/o allergy to contrast dye.
6. Pregnant women.
7. Active bleeding.
8. Acute or chronic kidney injury.

Ethical considerations: Study was approved by the institutional human ethics committee. Informed written consent was obtained from all the study participants, and only those participants willing to sign the informed consent were included in the study. The risks and benefits involved in the study and the voluntary nature of participation were explained to the participants before obtaining consent. Confidentiality of the study participants was maintained.

Data collection tools: All the relevant parameters were documented in a structured study proforma.

Methodology:

In this study, patients undergoing coronary angiogram at R.L. Jalappa hospital-Narayana heart centre were included. In these patients, a detailed history was taken, they were examined, and relevant investigations including RBS and HbA1c was done. The history collected, examination details, blood investigations and coronary angiogram findings were studied and correlated.

For the final analysis based on the level of HBA1 value, the study population was classified as follows

- Normal (<=5.69)
- Prediabetic (5.7 to 6.4)
- Diabetic (>= 6.5)

Significant stenosis(CAD) was defined as 50% or more in the left main coronary artery and >70% or more in LAD, LCX and RCA arteries.[62]

The coronary angiogram findings of single-vessel disease (VD),2VD,3VD are taken and compared between the diabetic and non-diabetic group and correlated with HbA1c.

The severity of the coronary lesions in the patient was defined with the ACC/AHA classification of coronary lesions.

Table 7: ACC/AHA classification of coronary lesions based on the angiogram findings.

TYPE A (minimally complex, low risk)	**TYPE B (moderately complex, moderate risk)**	**TYPE C (severely complex, high risk)**
Discrete (<10mm length)	Tubular (10-20mm)	Diffuse(>20mm)
Concentric	Eccentric	
Readily accessible	Moderate tortuosity of the proximal segment	Excessive tortuosity of the proximal segment
Non angulated segment (<45 degrees)	Moderately angulated segment (>45-<90)	Extremely angulated segment degrees
Smooth contour	Irregular contour	
Less than totally occlusive	Total occlusion <3months old	Total occlusion>3months of/or bridging collaterals
Non-ostial in location	Ostial in location	
No major side branch involvement	Bifurcation lesions requiring double guidewires	Inability to protect major side branches
Little or no classification	Moderate to heavy calcification	Degenerated vein grafts with lesion
Absence of thrombus	Some thrombus present	

STATISTICAL METHODS:

LMC ACC/AHA grade, LAD ACC/AHA grade, LCX ACC/AHA grade, RCA ACC/AHA grade Final AHA/ABC class were considered as primary outcome variables. HBA1C and the final diagnosis was considered as secondary outcome variables. Diabetic and pre-diabetic were considered as primary explanatory variables. Age, gender and other demographic variable were considered as other explanatory variables.

All Quantitative variables were checked for normal distribution within each category of an explanatory variable by using visual inspection of histograms and normality Q-Q plots. Shapiro- wilk test was also conducted to assess normal distribution. Shapiro wilk test p value of >0.05 was considered as a normal distribution.

Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency, and proportion for categorical variables. Non normally distributed quantitative variables were summarized by the median and interquartile range (IQR). Data was also represented using appropriate bar diagrams and pie diagrams.

For non-normally-distributed Quantitative parameters, Medians and Interquartile range (IQR) were compared between study groups using the Kruskal Wallis test (> 2 groups).

Categorical outcomes were compared between study groups using Chi square test /Fisher's Exact test (If the overall sample size was < 20 or if the expected number in any one of the cells is < 5, Fisher's exact test was used.) P value < 0.05 was considered statistically significant. IBM SPSS version 22 was used for statistical analysis.[63]

OBSERVATIONS
&
RESULTS

RESULTS

A total of 400 subjects were included in the final analysis.

Table 8: Descriptive analysis of age in the study population (N=400)

Parameter	Mean ± SD	Median	Minimum	Maximum	95% C.I	
					Lower	Upper
Age	57.97 ± 11.59	59.0	25.0	85.0	56.8	59.1

The mean of age was 57.97 ± 11.59 in the study population, the minimum age was 25 years, and the maximum age was 85 years in the study population (95% CI 56.8 to 59.1). (Table 8)

Table 9: Descriptive analysis of age groups in the study population (N=400)

Age groups	Frequency	Percentages
25-45	64	16.00%
46-60	169	42.25%
61-75	144	36.00%
76-85	23	5.75%

Among the study population, 64 (16%) participants were belonging to the age group between 25 to 45 years, 169 (42.25%) participants were belonging to the age group between 46 to 60 years, 144 (36%) participants were belonging to the age group between 61 to 75 years, 23 (5.75%) participants were belonging to the age group between 76 to 85 years. (Table 9 & Figure 5)

Figure 5: Bar chart of descriptive analysis of age groups in the study population (N=400)

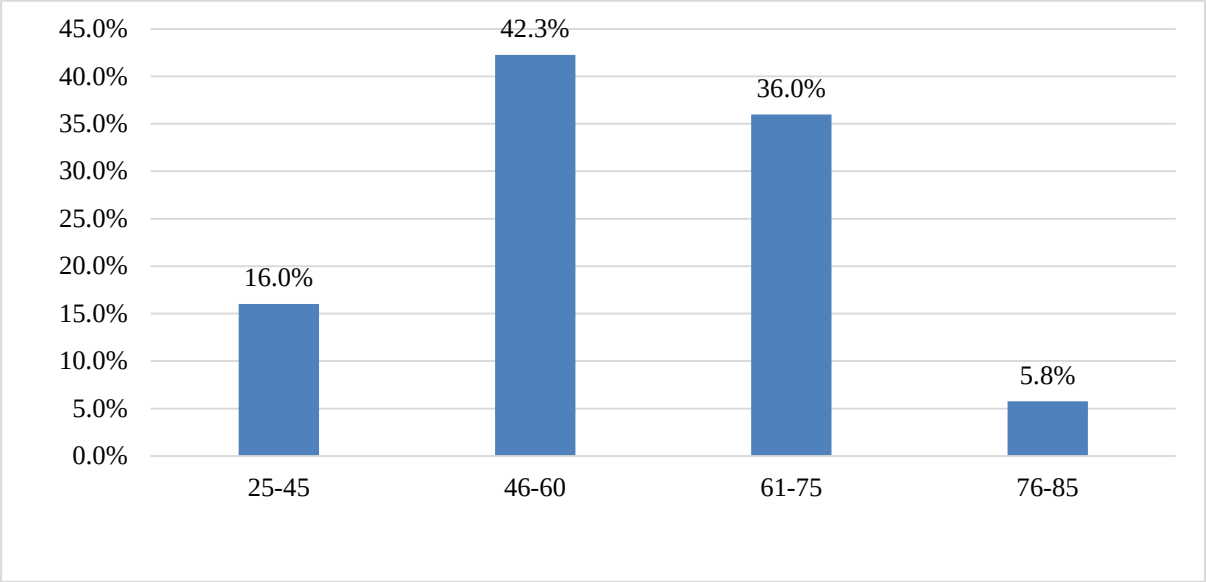


Table 10: Descriptive analysis of gender in the study population (N=400)

Gender	Frequency	Percentages
Male	329	82.25%
Female	71	17.75%

Among the study population, 329 (82.25%) participants were male, 71 (17.75%) participants were female. (Table 10 & Figure 6)

Figure 6: Bar chart of gender in the study population (N=400)

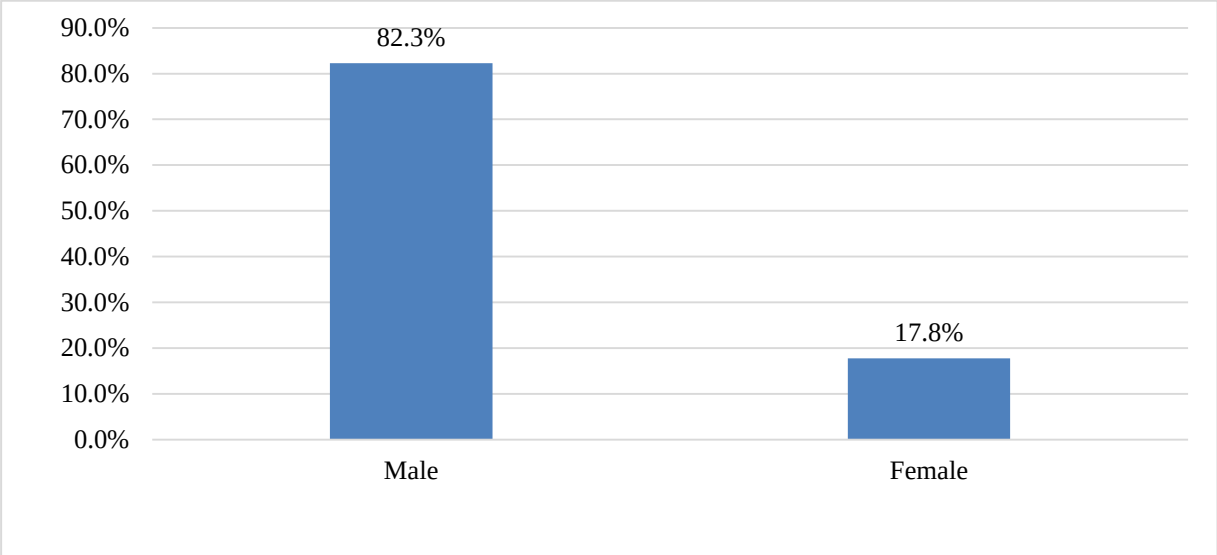


Table 11: Descriptive analysis of clinical presentation in the study population (N=400)

Clinical Presentation	Frequency	Percentages
ST Elevation MI	245	61.25%
Non-ST elevation MI	74	18.50%
Unstable angina	45	11.25%
Stable angina	36	9.00%

Among the study population, 245 (61.25%) participants were belonging to ST-elevation MI, 74 (18.5%) participants were belonging to non-ST elevation MI, 45 (11.25%) participants were belonging to unstable angina, 36 (9%) participants were belonging to stable angina. (Table 11 & Figure 7)

Figure 7: Bar chart of clinical presentation in the study population (N=400)

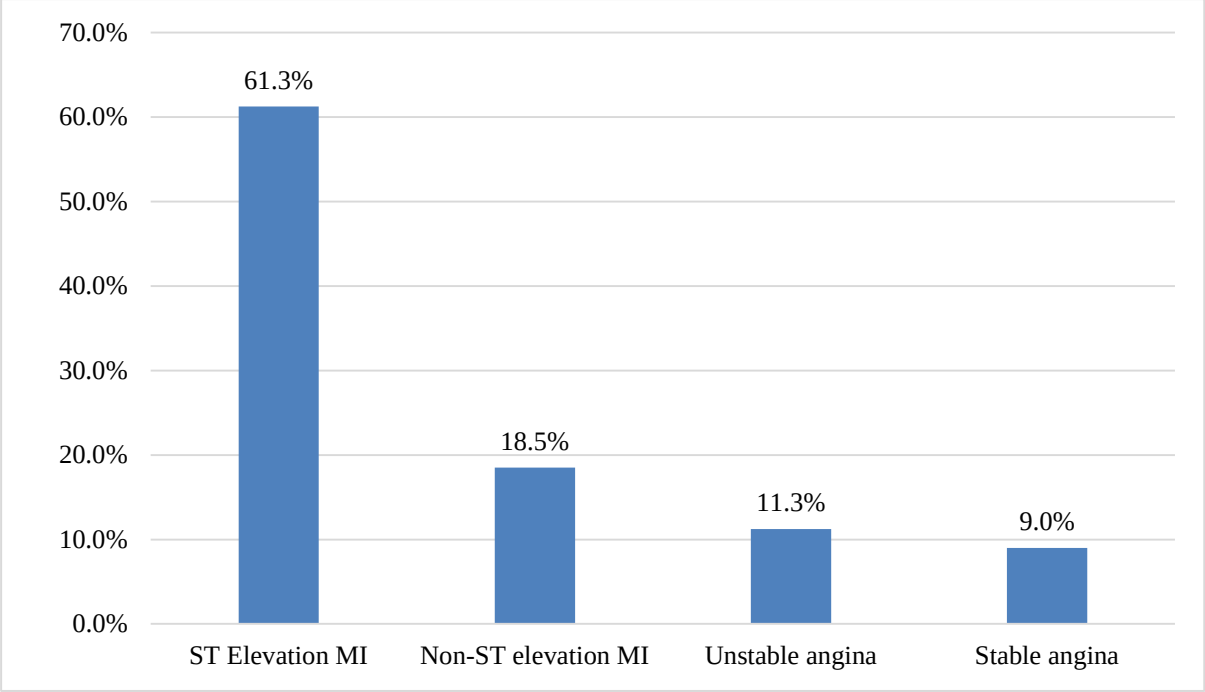


Table 12: Descriptive analysis of past history in the study population (N=400)

Past history	Frequency	Percentages
Diabetes		
Yes	200	50.00%
No	200	50.00%
Hypertension		
Yes	186	46.5%
No	214	53.5%
Hypothyroidism		
Yes	8	2%
No	392	98%
PVD		
Yes	5	1.3%
No	395	98.75%

Among the study population, 200 (50%) participants had diabetes, 186 (46.5%) participants had hypertension, 8 (2%) participants had hypothyroidism and 5 (1.3%) participants had PVD (Table 12)

Table 13: Descriptive analysis of family history (heart disease) in the study population (N=400)

Family History (heart disease)	Frequency	Percentages
Yes	18	4.50%
No	382	95.50%

Among the study population, 18 (4.5%) participants had a family history of heart disease. (Table 13)

Table 14: Descriptive analysis of personal history in the study population (N=400)

Personal history	Frequency	Percentages
H/O Smoking		
Yes	121	30.25%
No	279	69.75%
Alcohol		
Yes	58	14.50%
No	342	85.50%

Among the study population, 121 (30.25%) participants had a smoking history, and 58 (85.5%) participants had consumed alcohol. (Table 14)

Table 15: Descriptive analysis of pulse, SBP, DBP, and Respiratory rate in the study population (N=400)

Parameter	Mean ± SD	Median	Minimum	Maximum	95% C. I	
					Lower	Upper
Pulse	81.37 ± 12.39	82.0	40.0	170.0	80.2	82.6
SBP	120.78 ± 22.39	120.0	110.0	220.0	118.6	123.0
DBP	77.28 ± 11.39	80.0	40.0	150.0	76.2	78.4
Respiratory Rate	17.57 ± 2.29	16.0	16.0	30.0	17.3	17.8
Temperature	99.1 ± 0.41	99.09	98.40	99.80	99.06	99.14

The mean of the pulse was 81.37 ± 12.39 in the study population, the minimum was 40, and the maximum was 170 in the study population (95% CI 80.2 to 82.6). The mean of SBP was 120.78 ± 22.39 in the study population; the minimum was 110, and the maximum was 220 in the study population (95% CI 118.6 to 123). The mean of DBP was 77.28 ± 11.39 in the study population; the minimum was 40, and the maximum was 150 in the study population (95% CI 76.2 to 78.4). The mean respiratory rate was 17.57 ± 2.29 in the study population, the minimum was 16, and the maximum was 30 in the study population (95% CI 17.3 to 17.8). The mean temperature was 99.1 ± 0.41 in the study population, the minimum was 98.4, and the maximum was 99.8 in the study population (95% CI 99.06 to 99.14). (Table 15)

Table 16: Descriptive analysis of BMI in the study population (N=400)

Parameter	Mean ± SD	Median	Minimum	Maximum	95% C. I	
					Lower	Upper
BMI	27.96 ± 3.91	28.0	18.6	39.0	27.6	28.3

The mean of BMI was 27.96 ± 3.91 in the study population, the minimum was 18.6, and the maximum was 39 in the study population (95% CI 27.6 to 28.3). (Table 16)

Table 17: Descriptive analysis of BMI in the study population (N=400)

BMI	Frequency	Percentages
Normal weight (18.5 to 24.9)	100	25.00%
Over weight (25 to 29.9)	179	44.75%
Obesity I (30 to 34.9)	98	24.50%
Obesity II (35 to 40)	23	5.75%

Among the study population, 100 (25%) participants were belonging to normal weight (18.5 to 24.9), 179 (44.75%) participants were belonging to Over weight (25 to 29.9), 98 (24.5%) participants were belonging to type 1 obesity (30 to 34.9), 23 (5.75%) participants were belonging to type 2 obesity (35 to 40). (Table 17 & Figure 8)

Figure 8: Pie chart descriptive analysis of BMI in the study population (N=400)

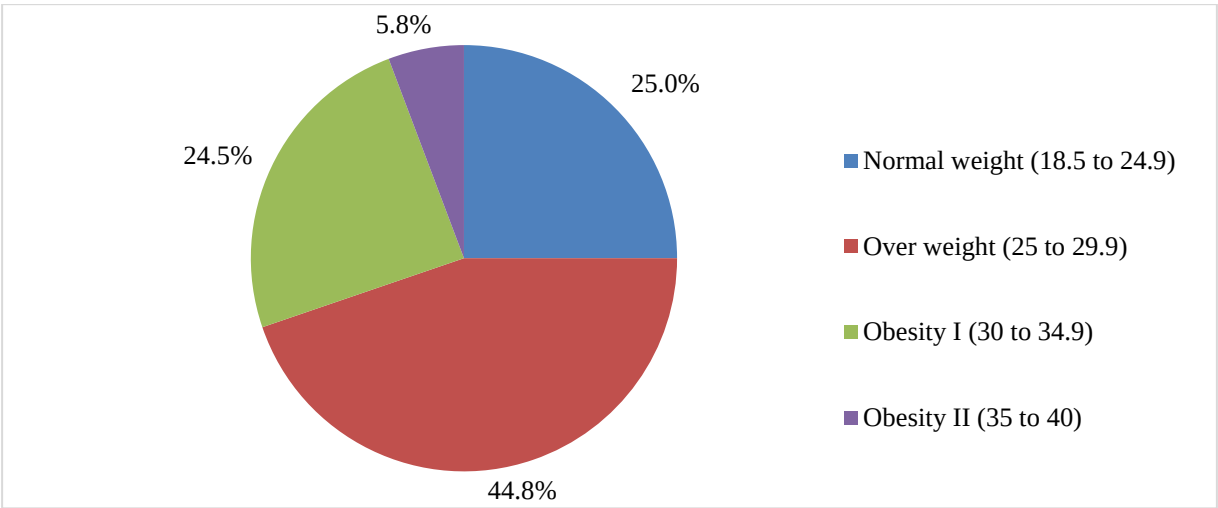


Table 18: Descriptive analysis of laboratory findings in the study population (N=400)

Parameter	Mean ± SD	Median	Minimum	Maximum	95% C. I	
					Lower	Upper
CBC						
HB	14.04 ± 5.94	14.0	7.2	103.0	13.5	14.6
WBC	12.35 ± 35.42	9.5	0.0	702.0	8.9	15.8
Platelets	259.09± 81.89	250	26.0	564.0	251.0	267.1
RFT						
Urea	25.95 ± 9.61	25.0	1.0	67.0	25.0	26.9
Serum Creatinine	1.19 ± 5.14	0.9	0.2	102.0	0.7	1.7
Serum electrolytes						
Sodium	137.61 ±61.37	136	3.4	1336	131.6	143.6
Potassium	4.66 ± 5.45	4.2	2.1	96.3	4.1	5.2
Chloride	100.81 ±12.82	102	1.2	140.0	99.6	102.1
Glycemic parameters						
RBS	167.55 ±77.68	142	5.9	508	159.9	175.2
HBA1C	7.69 ± 4.71	6.5	4.5	90.0	7.2	8.2
Lipid parameters						
Total Cholesterol	190.56 ±44.09	189	2.4	320.0	186.2	194.9
HDL	35.86 ± 9.11	35.0	2.0	86.0	35.0	36.8
Serum Triglycerides	171.93±60.27	160	10.0	848.0	166.0	177.9
LDL	114.42 ± 29.1	110	11.0	236.0	111.6	117.3
VLDL	33.55 ± 12.49	30.0	10.0	70.0	32.3	34.8

The mean of HB was 14.04 ± 5.94 in the study population, the minimum was 7.2, and the maximum was 103 in the study population (95% CI 13.5 to 14.6). The mean of WBC was 12.35 ± 35.42 in the study population, the minimum was 0, and the maximum was 702 in the study population (95% CI 8.9 to 15.8). The mean of platelets was 259.09 ± 81.89 in the study population, the minimum was 26, and the maximum was 564 in the study population (95% CI

251 to 267.1). The mean of urea was 25.95 ± 9.61 in the study population; the minimum was 1, and the maximum was 67 in the study population (95% CI 25 to 26.9). The mean of serum creatinine was 1.19 ± 5.14 in the study population, the minimum was 0.2, and the maximum was 102 in the study population (95% CI 0.7 to 1.7). The mean of sodium was 137.61 ± 61.37 in the study population; the minimum was 3.4, and the maximum was 1336 in the study population (95% CI 131.6 to 143.6). The mean of potassium was 4.66 ± 5.45 in the study population; the minimum was 2.1, and the maximum was 96.3 in the study population (95% CI 4.1 to 5.2). The mean of chloride was 100.81 ± 12.82 in the study population; the minimum was 1.2, and the maximum was 140 in the study population (95% CI 99.6 to 102.1). The mean of RBS was 167.55 ± 77.68 in the study population, the minimum was 5.9, and the maximum was 508 in the study population (95% CI 159.9 to 175.2). The mean of HBA1C was 7.69 ± 4.71 in the study population, the minimum was 4.5, and the maximum was 90 in the study population (95% CI 7.2 to 8.2). The mean of total cholesterol was 190.56 ± 44.09 in the study population; the minimum was 2.4, and the maximum was 320 in the study population (95% CI 186.2 to 194.9). The mean of HDL was 35.86 ± 9.11 in the study population; the minimum was 2, and the maximum was 86 in the study population (95% CI 35 to 36.8). The mean of serum triglycerides was 171.93 ± 60.27 in the study population; the minimum was 10, and the maximum was 848 in the study population (95% CI 166 to 177.9). The mean of LDL was 114.42 ± 29.1 in the study population; the minimum was 11, and the maximum was 236 in the study population (95% CI 111.6 to 117.3). The mean of VLDL was 33.55 ± 12.49 in the study population; the minimum was 10, and the maximum was 70 in the study population (95% CI 32.3 to 34.8). (Table 18)

Table 19: Descriptive analysis of DYSLIPIDEMIA in the study population (N=400)

DYSLIPIDEMIA	Frequency	Percentages
Total Cholesterol		
Normal (<200)	233	58.25%
Borderline (200 to 239)	108	27.00%
High (>=240)	59	14.75%
HDL		
Low (<40)	303	75.75%
Normal (40 to 60)	92	23.00%
High (>60)	5	1.25%
LDL		
Normal (<100)	130	32.50%
Desirable (100 to 129)	133	33.25%
Borderline (130 to 159)	119	29.75%
High (>= 160)	18	4.50%
Sr. Triglycerides		
Normal (<150)	161	40.25%
Borderline (150-200)	166	41.50%
High (201-499)	72	18.00%
Very high (>500)	1	0.25%

Among the study population, 233 (58.25%) participants total cholesterol was normal (<200), 108 (27%) participants total cholesterol was on the borderline (200 to 239), 59 (14.75%) participants total cholesterol was high (>=240). Among the study population, 303 (75.75%) participants HDL was low (<40), 92 (23%) participants HDL was normal (40 to 60), 5 (1.25%) participants HDL was high (>60). Among the study population, 130 (32.5%) participants LDL was normal (<100), 133 (33.25%) participants LDL was desirable (100 to 129), 119 (29.75%) participants LDL was on borderline (130 to 159), 18 (4.5%) participants

LDL was high (>= 160). Among the study population, 161 (40.25%) participants sr. Triglycerides were in normal (<150) range, 166 (41.5%) participants sr. triglycerides were on the borderline (150-200), 72 (18%) participants sr. triglycerides were high (201-499), 1 (0.25%) participant sr. triglycerides were very high (>500) (Table 19)

Table 20: Descriptive analysis of troponin I in the study population (N=400)

Troponin I	Frequency	Percentages
Elevated	322	80.50%
Normal	78	19.50%

Among the study population, 322 (80.5%) participants troponin I was elevated and 78 (19.5%) participants troponin I was Normal. (Table 20 & Figure 9)

Figure 9: Bar chart of descriptive analysis of troponin I in the study population (N=400)

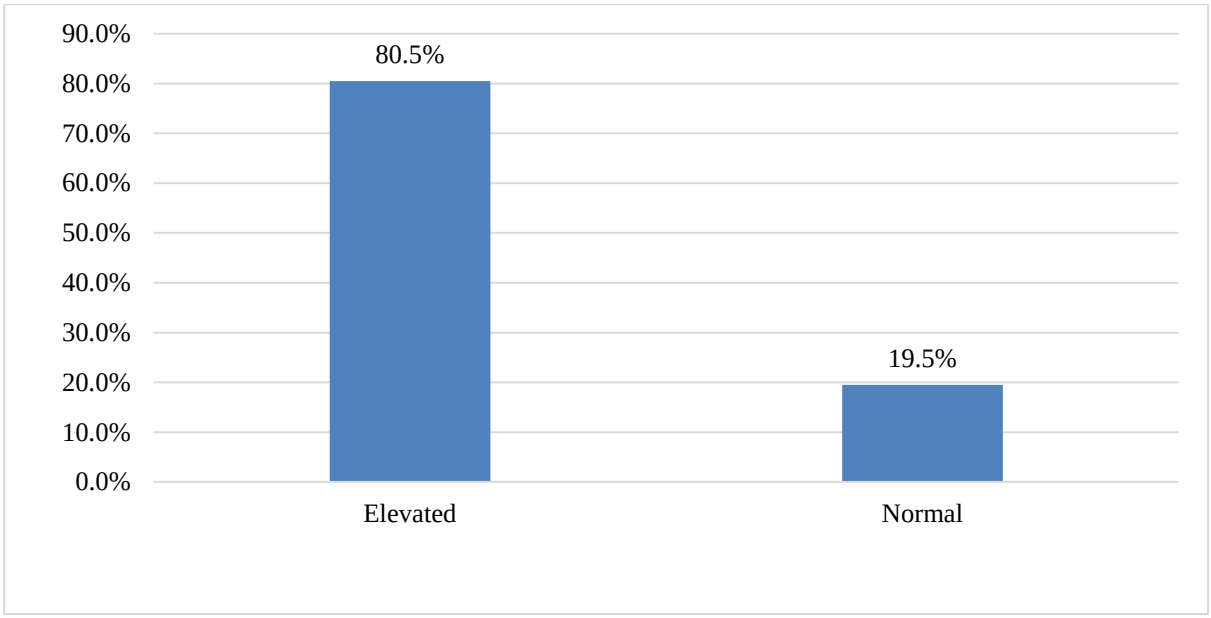


Table 21: Descriptive analysis of ECG in the study population (N=400)

ECG	Frequency	Percentages
Normal	81	20.25 %
NSTEMI	74	18.5 %
STEMI	245	61.25 %

Among the study population, 81 (20.25%) participants ECG was normal, 74 (18.5%) participants were belonging to NSTEMI, 245 (61.25%) participants were belonging to STEMI. (Table 21 & Figure 10)

Figure 10: Pie chart of descriptive analysis of ECG in the study population (N=400)

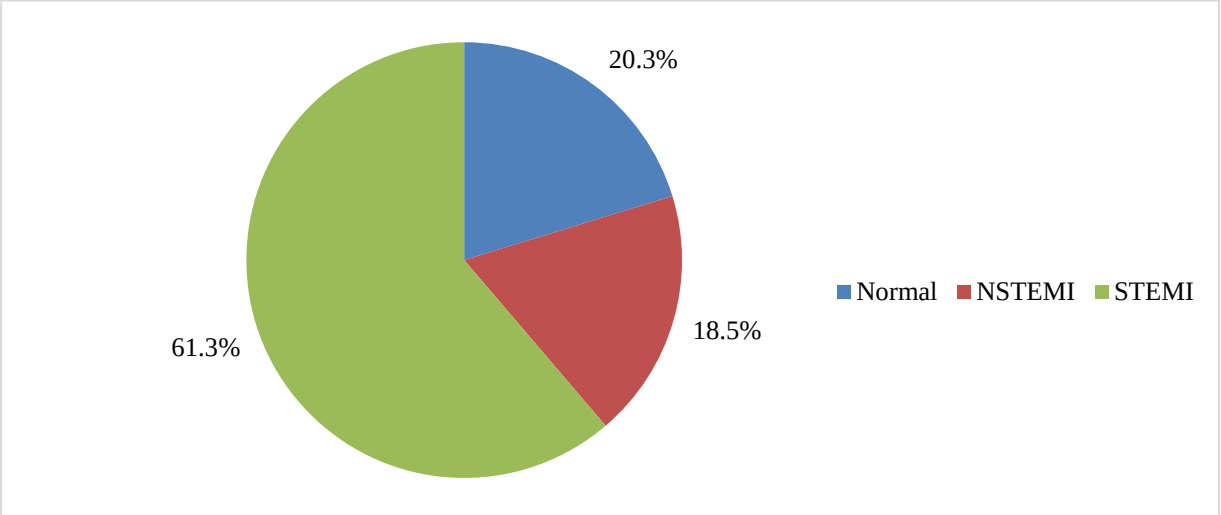


Table 22: Descriptive analysis of 2D ECHO LV systolic dysfunction in the study population (N=400)

Parameter	Mean ± SD	Median	Minimum	Maximum	95% C. I	
					Lower	Upper
LV Function (%)	47.32 ± 10.15	45.0	20.0	61.0	46.3	48.3

The mean of LV Function (%) was 47.32 ± 10.15 in the study population, the minimum was 20, and the maximum was 61 in the study population (95% CI 46.3 to 48.3). (Table 22)

Table 23: Descriptive analysis of lv function (%) in the study population (N=400)

LV Function (%)	Frequency	Percentages
Normal (>=50)	187	46.75%
Mild (40 to 49)	140	35.00%
Moderate (30 to 39)	63	15.75%
Severe (<30)	10	2.50%

Among the study population, 187 (46.75%) participants LV Function (%) was Normal (>=50), 140 (35%) participants LV Function (%) was Mild (40 to 49), 63 (15.75%) participants LV Function (%) was Moderate (30 to 39) and 10 (2.5%) participants LV Function (%) was Severe (<30). (Table 23 & Figure 11)

Figure 11: Bar chart of descriptive analysis of lv function (%) in the study population (N=400)

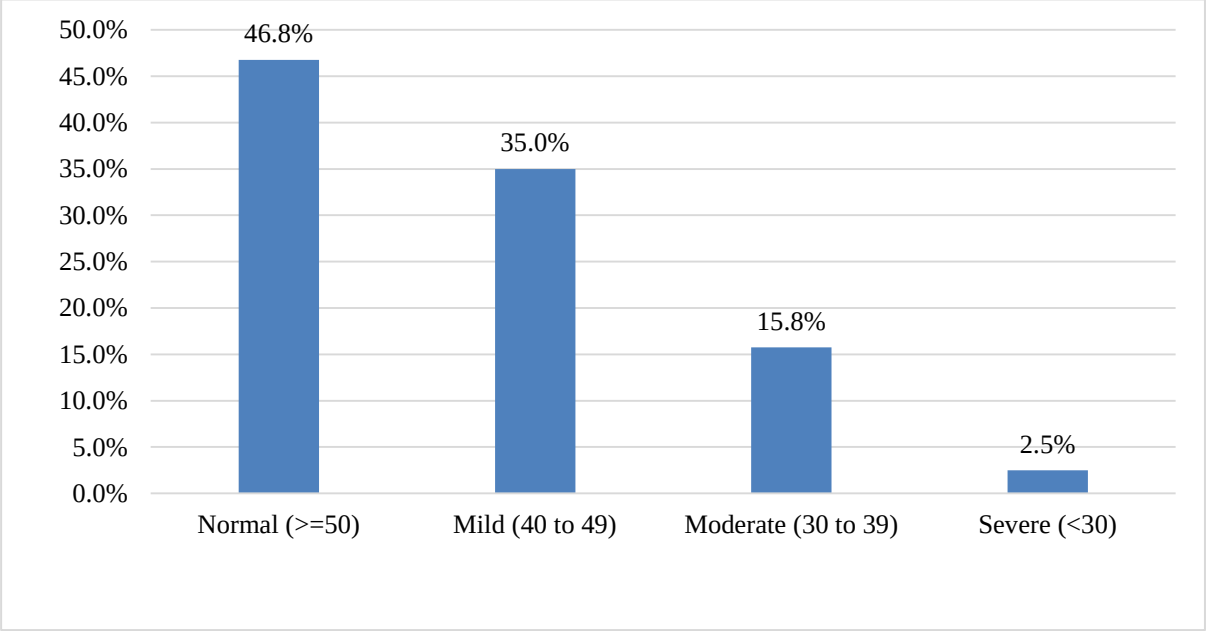


Table 24: Descriptive analysis of cardiac evaluation in the study population (N=400)

Cardiac evaluation	Frequency	Percentages
LMCA		
Involved	37	9.25%
Type A	15	3.80%
Type B	7	1.80%
Type C	15	3.80%
Not involved	363	90.75%
LAD		
Involved	345	82.25%
Type A	65	16.30%
Type B	63	15.80%
Type C	217	54.30%
Not involved	55	13.75%
LCX		
Involved	209	52.25%
Type A	45	11.30%
Type B	64	16%
Type C	101	25.30%
Not Involved	191	47.75%
RCA		
Involved	260	65%
Type A	55	13.80%
Type B	45	11.30%
Type C	162	40.50%
Not Involved	140	35%

Among the study population, 37 (9.25%) participants involved in LMCA. 15 (3.8%) participants were belonging to ACC/AHA Grade A, 7 (1.8%) participants were belonging to ACC/AHA Grade B, 15 (3.8%) participants were belonging to ACC/AHA Grade C. Among

the study population, 345 (82.255%) participants involved in LAD, 65 (16.3%) participants were belonging to ACC/AHA Grade A, 63 (15.8%) participants were belonging to ACC/AHA Grade B, 217 (54.3%) participants were belonging to ACC/AHA Grade C. Among the study population, 209 (52.25%) participants involved in LCX, 45 (11.3%) participants were belonging to ACC/AHA Grade A, 64 (16%) participants were belonging to ACC/AHA Grade B, 101 (25.3%) participants were belonging to ACC/AHA Grade C. Among the study population, 260 (65%) participants involved in RCA, 55 (13.8%) participants were belonging to ACC/AHA Grade A, 45 (11.3%) participants were belonging to ACC/AHA Grade B, 162 (40.5%) participants were belonging to ACC/AHA Grade C. (Table 24)

Table 25: Descriptive analysis of final diagnosis in the study population (N=400)

Final Diagnosis	Frequency	Percentages
Critical triple vessel disease	10	2.5%
Triple vessel disease	101	25.25%
Double vessel disease	119	29.75%
Single vessel disease	150	37.50%
Minor coronary artery disease	20	5.00%

Among the study population, 10 (2.5%) participants were belonging to critical triple vessel disease, 101 (25.25%) participants were belonging to triple vessel disease, 119 (29.75%) participants were belonging to double vessel disease, 150 (37.5%) participants were belonging to single-vessel disease, 20 (5%) participants were belonging to minor coronary artery disease. (Table 25 & Figure 12)

Figure 12: Pie chart of final diagnosis in the study population (N=400)

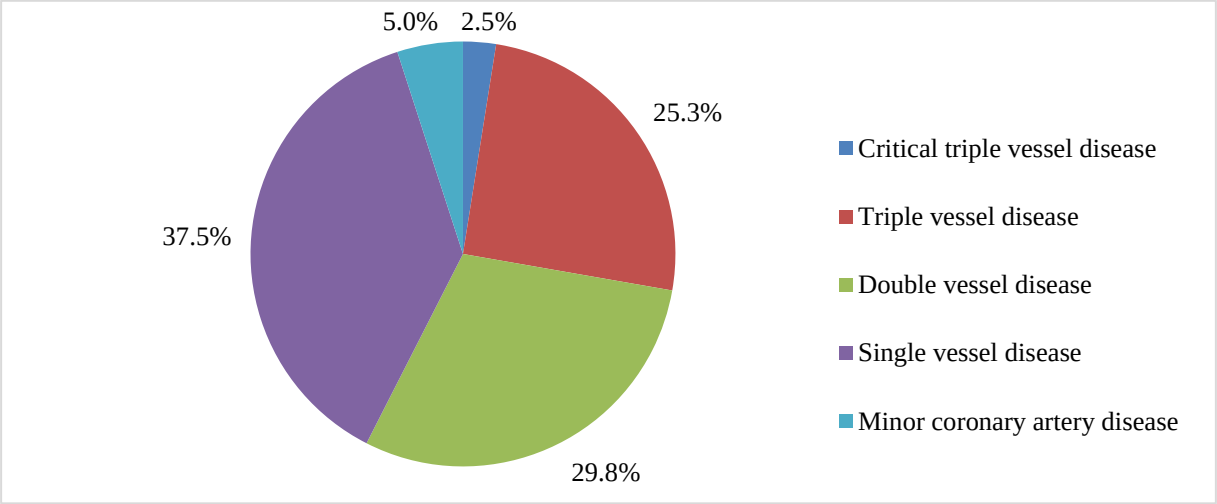


Table 26: Descriptive analysis of treatment in the study population (N=400)

Treatment	Frequency	Percentages
Percutaneous transluminal coronary angioplasty (PTCA)	310	77.50%
Optimum medical treatment (OMT)	58	14.50%
Coronary artery bypass graft (CABG)	32	8.00%

Among the study population, 310 (77.5%) participants were belonging to a percutaneous transluminal coronary angioplasty (PTCA), 58 (14.5%) participants were belonging to optimum medical treatment (OMT), 32 (8%) participants were belonging to coronary artery bypass graft (CABG). (Table 26 & Figure 13)

Figure 13: Pie chart of treatment in the study population (N=400)

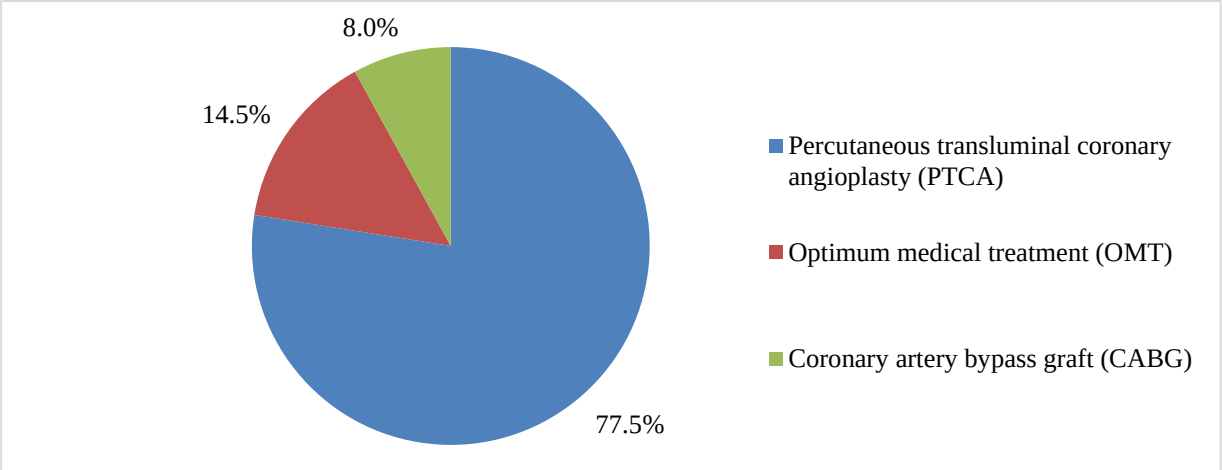


Table 27: Descriptive analysis of HbA1c in the study population (N=400)

Parameter	Mean ± SD	Median	Minimum	Maximum	95% C. I	
					Lower	Upper
Hba1C	7.47 ± 2.26	6.48	4.45	16.20	7.25	7.69

The mean of Hba1C was 7.47 ± 2.26 in the study population, the minimum was 4.45, and the maximum was 16.2 in the study population (95% CI 7.25 to 7.69). (Table 27)

Table 28: Descriptive analysis of hba1c in the study population (N=400)

Hba1C	Frequency	Percentages
Normal (<=5.69)	100	25.00%
<5	5	1.25%
5 to 5.69	95	23.75%
Pre diabetic (5.7 to 6.4)	100	25.00%
5.7 to 6	44	11.00%
6.1to 6.49	56	14.00%
Diabetic (>= 6.5)	200	50.00%
Controlled (HbA1C >- 6.5 to < 7)		
6.5 to 6.99	33	8.25%
Uncontrolled (HbA1C >=7)		
7 to 7.99	32	8.00%
8 to 9.99	80	20.00%
10 to 11.99	32	8.00%
12 to 13.99	16	4.00%
>= 14	7	1.75%

Among the study population, 5 (1.25%) participants HBA1C was less than 5, 95 (23.75%) participants HBA1C was in between 5 to 5.69, 44 (11%) participants HBA1C was in between 5.7 to 6, 56 (14%) participants HBA1C was in between 6.1to 6.49, 33 (8.25%) participants HBA1C was in between 6.5 to 6.99, 32 (8%) participants HBA1C was in between 7 to 7.99,

80 (20%) participants HBA1C was in between 8 to 9.99, 32 (8%) participants HBA1C was in between 10 to 11.99, 16 (4%) participants HBA1C was in between 12 to 13.99, 7 (1.75%) participants HBA1C was more than or equal to 14. (Table 28)

Table 29: Descriptive analysis of diabetes in the study population (N=400)

Diabetes	Frequency	Percentages
Normal		
Yes	100	25.00 %
No	300	75.00 %
Pre-diabetes		
Yes	100	25.00%
No	300	75.00%
Diabetes		
Yes	200	50%
No	200	50%

Among the study population, 100 (25%) participants diabetes was normal, 100 (25%) participants were belonging to pre-diabetic, and 200 (50%) participants were diabetic. (Table 29)

Table 30: Distribution of risk factors between three groups (N=400)

Risk Factor	Normal (n=100)	Prediabetic (n=100)	Diabetic (n=200)
Age>60	21 (21 %)	47 (47 %)	99 (49.5 %)
Male	85 (85 %)	90 (90 %)	154 (77 %)
Hypertension	33 (33 %)	28 (28 %)	111 (55.5 %)
Hypothyroidism	0 (0 %)	2 (2 %)	3 (1.5 %)
Smoking	30 (30 %)	35 (35 %)	57 (28.5 %)
Family history	11 (11 %)	4 (4 %)	3 (1.5 %)
DYSLIPIDEMIA	46 (46 %)	50 (50 %)	123 (61.5 %)
BMI >25	72 (72 %)	63 (63 %)	155 (77.5 %)
PVD	1 (1 %)	1 (1 %)	3 (1.5 %)

Out of 100 normal participants 21 (21 %) participants were aged more than 60 years, 85 (85 %) participants were male, 33 (33 %) participants had hypertension, 30 (30 %) participants had smoking habit, 11 (11 %) participants had family history with diabetes, 46 (46 %) participants were belonging to dyslipidemia, 72 (72 %) participants BMI was more than 25 and 1 (1 %) participant was belonging to PVD. Out of 100 pre diabetic patients 47 (47 %) participants were aged more than 60 years, 90 (90 %) participants were male, 28 (28 %) participants had hypertension, 2 (2 %) participants had hypothyroidism, 35 (35 %) participants had smoking habit, 4 (4 %) participants had family history with diabetes, 50 (50 %) participants were belonging to dyslipidemia, 63 (63 %) participants BMI was more than 25 and 1 (1 %) participant was belonging to PVD. Out of 200 diabetic patients 99 (49.5 %) participants were aged more than 60 years, 154 (77 %) participants were male, 111 (55.5%) participants had hypertension, 3 (1.5%) participants had hypothyroidism, 57 (28.5%) participants had smoking habit, 3 (1.5%) participants had family history with diabetes, 123 (61.5%) participants were belonging to dyslipidemia, 155 (77.5%) participants BMI was more than 25 and 3 (1.5%) participants were belonging to PVD. (Table 30)

Table 31: Descriptive analysis of final AHA/ABC class in the study population (N=400)

Final AHA/ABC Class	Frequency	Percentages
Low disease (Type A)	34	8.50%
Moderate disease (Type B)	33	8.25%
Severe disease (Type C)	333	83.25%

Among the study population, 34 (8.5%) participants were belonging to low disease (Type A), 33 (8.25%) participants were belonging to moderate disease (Type B), 333 (83.25%) participants were belonging to severe disease (Type C). (Table 31 & Figure 14)

Figure 14: Pie chart descriptive analysis of final AHA/ABC class in the study population (N=400)

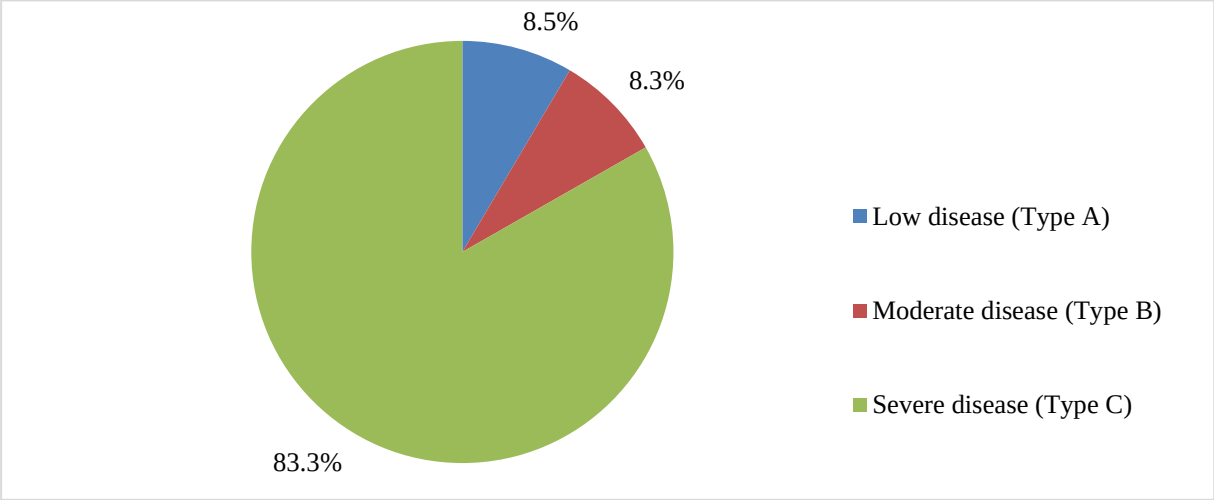


Table 32: Comparison of median HBA1C between LMC ACC/AHA grade in study population (N=400)

Parameter	LMC ACC/AHA grade				Kruskal Wallis test (P value)
	A (N=15)	B (N=7)	C (N=15)	No (N=363)	
HBA1C median (IQR)	6.32 (5.67,8.2)	6.28 (5.75,9.64)	6.35 (5.7,10.64)	6.5 (5.68,8.9)	0.959

The median of HBA1C was 6.32 (5.67,8.2) in LMC ACC/AHA grade A, it was 6.28 (5.75,9.64) in LMC ACC/AHA grade B, it was 6.35 (5.7,10.64) LMC ACC/AHA grade C, and the difference across two groups was statistically not significant (P value 0.959). (Table 32 & Figure 15)

Figure 15: Comparative box plot of comparison of median HBA1C between LMC ACC/AHA grade in study population (N=400)

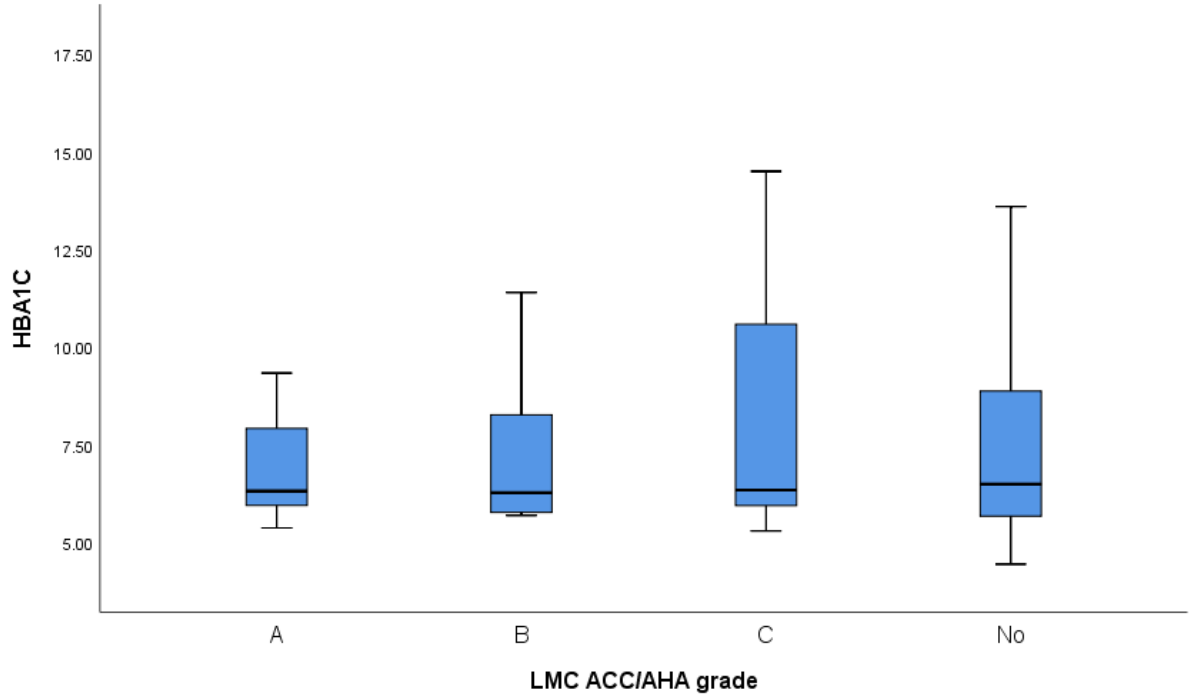


Table 33: Comparison of median HBA1C between LAD ACC/AHA grade in study population (N=400)

Parameter	LAD ACC/AHA grade				Kruskal Wallis test (P value)
	A (N=65)	B (N=63)	C (N=217)	No (N=55)	
HBA1C median (IQR)	6.2 (5.61,8.09)	7.01 (5.9,8.9)	6.51 (5.78,8.97)	6.2 (5.64,9.45)	0.082

The median of HBA1C was 6.2 (5.61,8.09) in LAD ACC/AHA grade A, it was 7.01 (5.9,8.9) in LAD ACC/AHA grade B, it was 6.51 (5.78,8.97) LAD ACC/AHA grade C and the difference across two groups were statistically not significant (P value 0.082). (Table 33 & Figure 16)

Figure 16: Comparative box plot of comparison of median HBA1C between LAD ACC/AHA grade in study population (N=400)

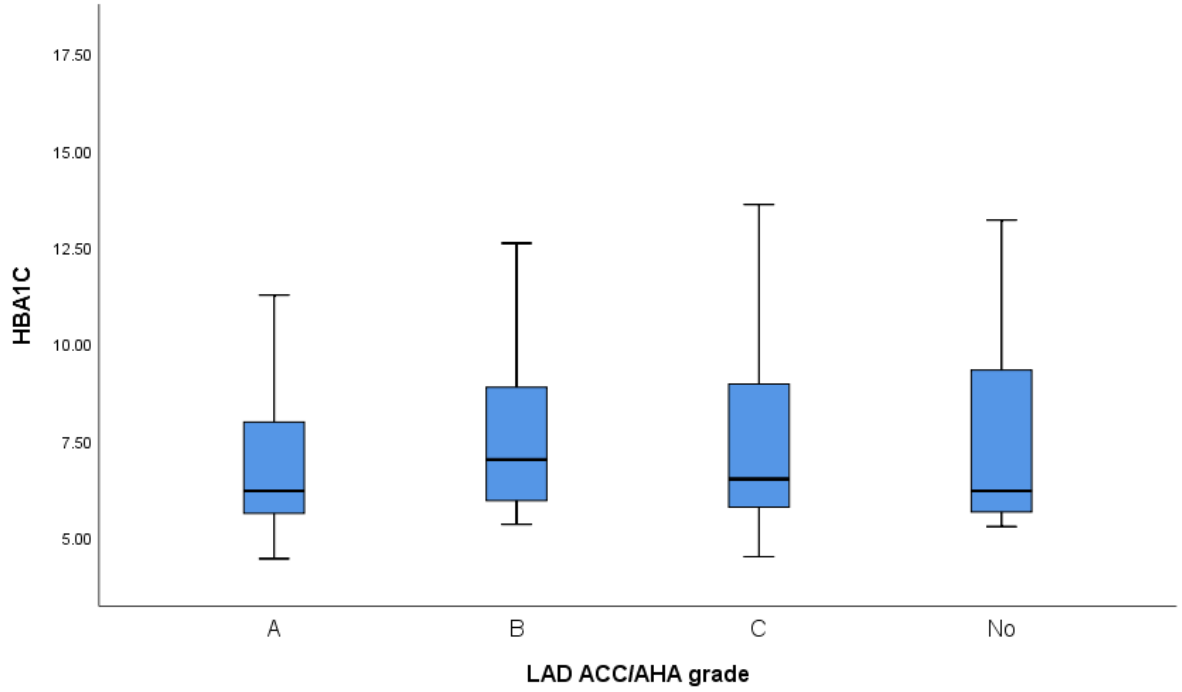


Table 34: Comparison of median HBA1C between LCX ACC/AHA grade in study population (N=400)

Parameter	LCX ACC/AHA grade				Kruskal Wallis test (P value)
	A (N=45)	B (N=64)	C (N=101)	No (N=190)	
HBA1C median (IQR)	6.9 (5.98,8.97)	7.21 (6.21,9.36)	6.92 (5.85,9.2)	6.2 (5.64,8.2)	<0.001

The median of HBA1C was 6.9 (5.98,8.97) in LCX ACC/AHA grade A, it was 7.21 (6.21,9.36) in LCX ACC/AHA grade B, it was 6.92 (5.85,9.2) LCX ACC/AHA grade C and the difference across two groups was statistically significant (P value <0.001). (Table 34 & Figure 17)

Figure 17: Comparative box plot of comparison of median HBA1C between LCX ACC/AHA grade in study population (N=400)

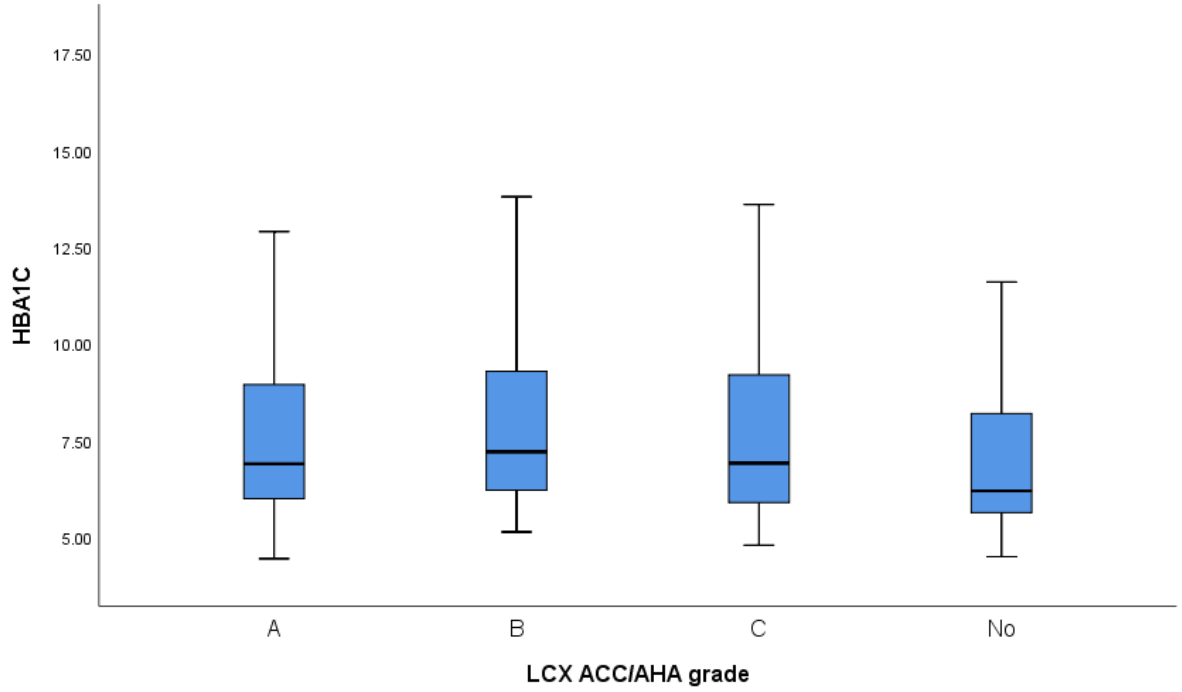


Table 35: Comparison of median HBA1C between RCA ACC/AHA grade in study population (N=400)

Parameter	RCA ACC/AHA grade				Kruskal Wallis test (P value)
	A (N=55)	B (N=45)	C (N=162)	No (N=138)	
HBA1C median (IQR)	6.7 (5.67,8.9)	7.6 (6.11,9.05)	6.9 (5.89,9.35)	6.2 (5.64,7.81)	0.001

The median of HBA1C was 6.7 (5.67,8.9) in RCA ACC/AHA grade A, it was 7.6 (6.11,9.05) in RCA ACC/AHA grade B, it was 6.9 (5.89,9.35) RCA ACC/AHA grade C, and the difference across two groups was statistically significant (P value 0.001). (Table 35 & Figure 18)

Figure 18: Comparative box plot of comparison of median HBA1C between RCA ACC/AHA grade in study population (N=400)

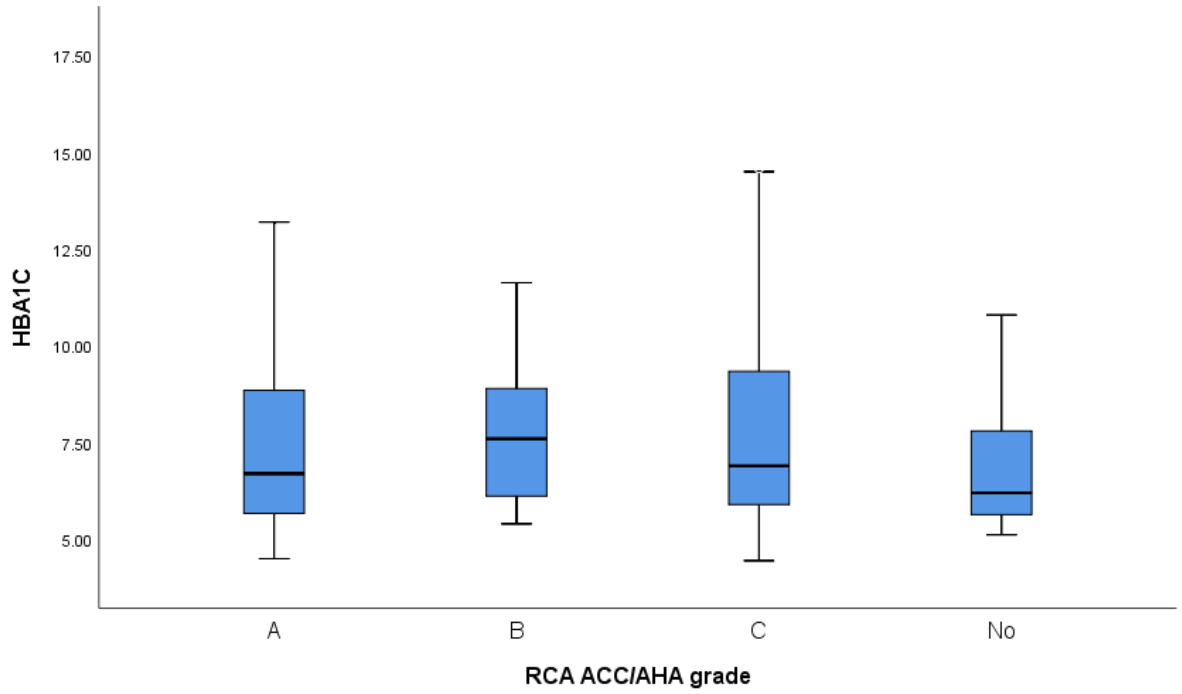


Table 36: Comparison of median HBA1C between final AHA/ABC class in study population (N=400)

Parameter median (IQR)	Final AHA/ABC Class			Kruskal Wallis test (P value)
	Low risk (N=34)	Moderate risk (N=33)	High risk (N=333)	
HBA1C	6.2 (5.62,8.33)	6.7 (5.68,8.58)	6.5 (5.77,8.96)	0.314

The median of HBA1C was 6.2 (5.62,8.33) in a low-risk group, it was 6.7 (5.68,8.58) in the moderate-risk group, and it was 6.5 (5.77,8.96) high-risk group and the difference across two groups was statistically not significant (P value 0.314). (Table 36 & Figure 19)

Figure 19: Comparative box plot of comparison of median HBA1C between final AHA/ABC class in study population (N=400)

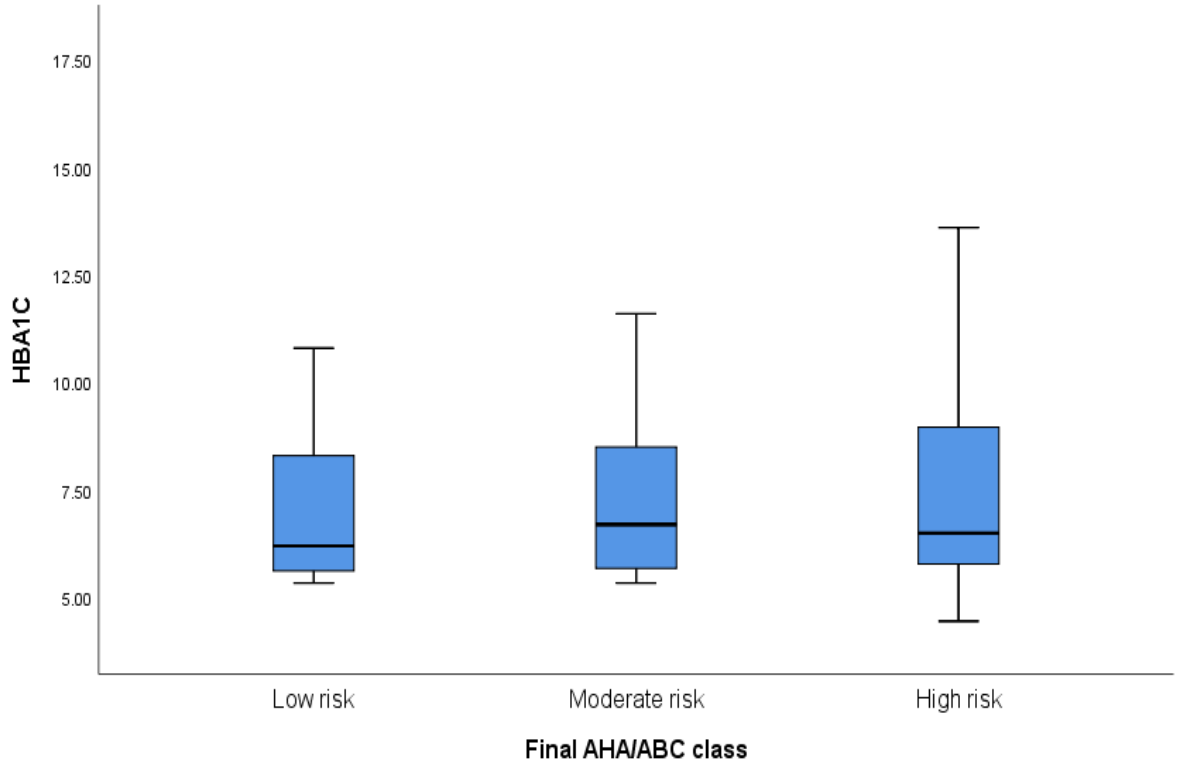


Table 37: Comparison of median HBA1C between final AHA/ABC class among normal (<5.7) HBA1C (N=100)

Parameter median (IQR)	Final AHA/ABC Class			Kruskal Wallis test (P value)
	Low risk (N=13)	Moderate risk (N=10)	High risk (N=77)	
HBA1C	5.5 (5.38,5.64)	5.55 (5.49,5.67)	5.46 (5.38,5.63)	0.227

The median of HBA1C was 5.5 (5.38,5.64) in a low-risk group, it was 5.55 (5.49,5.67) in the moderate-risk group, and it was 5.46 (5.38,5.63) high-risk group and the difference across two groups was statistically not significant (P value 0.227). (Table 37)

Table 38: Comparison of median HBA1C between final AHA/ABC class among pre diabetic (5.7 to 6.49) HBA1C (N=100)

Parameter median (IQR)	Final AHA/ABC Class			Kruskal Wallis test (P value)
	Low risk (N=7)	Moderate risk (N=4)	High risk (N=89)	
HBA1C	6.2 (5.96,6.28)	5.9 (5.87,6.22)	6.12 (5.85,6.24)	0.584

The median of HBA1C was 6.2 (5.96,6.28) in a low-risk group, it was 5.9 (5.87,6.22) in the moderate-risk group, and it was 6.12 (5.85,6.24) high-risk group and the difference across two groups was statistically not significant (P value 0.584). (Table 38)

Table 39: Comparison of median HBA1C between final AHA/ABC class among diabetic (>= 6.5) HBA1C (N=200)

Parameter median (IQR)	Final AHA/ABC Class			Kruskal Wallis test (P value)
	Low risk (N=14)	Moderate risk (N=19)	High risk (N=167)	
HBA1C	8.45 (7.52,9.69)	7.95 (7.18,9)	8.96 (7.65,10.54)	0.120

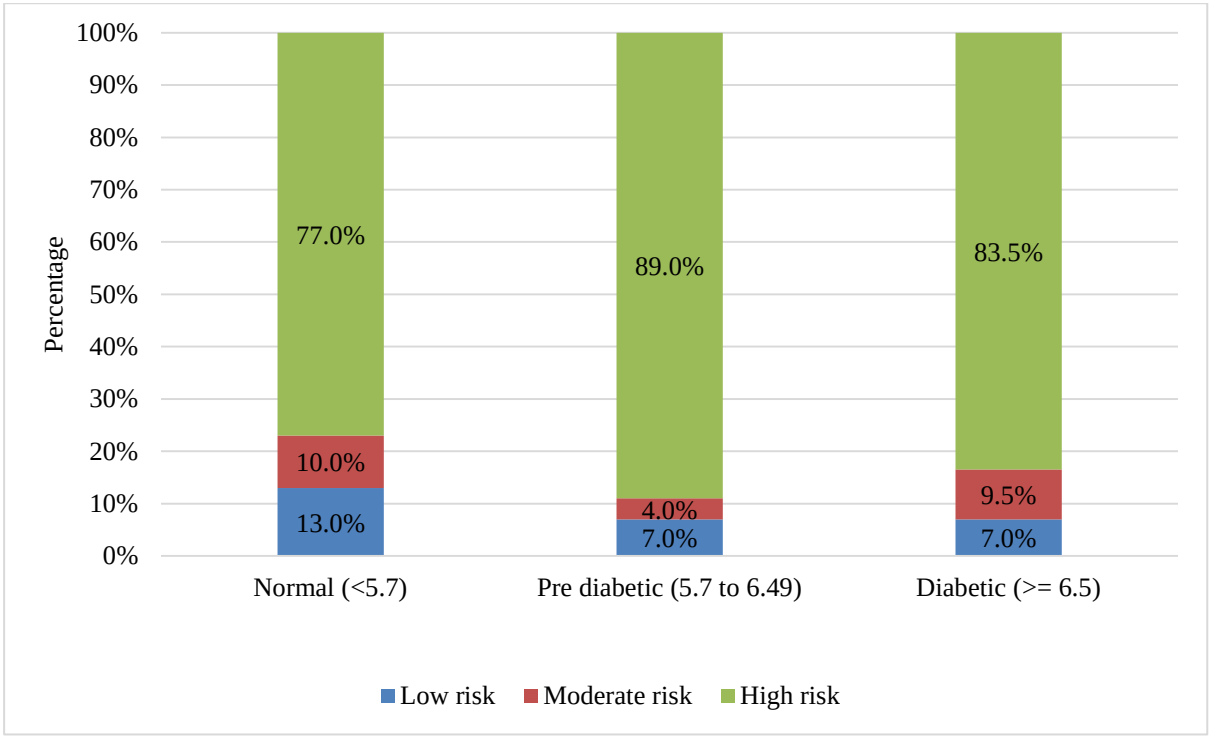
The median of HBA1C was 8.45 (7.52,9.69) in a low-risk group, it was 7.95 (7.18,9) in the moderate-risk group, and it was 8.96 (7.65,10.54) high-risk group and the difference across two groups was statistically not significant (P value 0.120). (Table 39)

Table 40: Comparison of final AHA/ABC class across hba1c (N=400)

Final AHA/ABC Class	Hba1C			Chi square	P value
	Normal (<5.7) (N=100)	Pre-Diabetic (5.7 To 6.49) (N=100)	Diabetic (>= 6.5) (N=200)		
Low Risk	13 (13%)	7 (7%)	14 (7%)	6.984	0.137
Moderate Risk	10 (10%)	4 (4%)	19 (9.5%)		
High Risk	77 (77%)	89 (89%)	167 (83.5%)		

Out of 100 normal people, 13 (13%) participants were belonging to low risk in final AHA/ABC class, 10 (10%) participants were belonging to moderate risk in final AHA/ABC class, and 77 (77%) participants were belonging to high risk in final AHA/ABC class. Out of 100 pre-diabetic people, 7 (7%) participants were belonging to low risk in final AHA/ABC class, 4 (4%) participants were belonging to moderate risk in final AHA/ABC class, and 89 (89%) participants were belonging to high risk in final AHA/ABC class. Out of 200 normal people, 14 (7%) participants were belonging to low risk in final AHA/ABC class, 19 (9.5%) participants were belonging to moderate risk in final AHA/ABC class, and 167 (83.5%) participants were belonging to high risk in final AHA/ABC class. And the difference between the two groups was statistically not significant P value 0.137. (Table 40 & Figure 20)

Figure 20: Staked bar chart of comparison of final AHA/ABC class across hba1c (N=400)



DISCUSSION

DISCUSSION

Worldwide, coronary artery disease has emerged as the single most important cause of mortality and morbidity. Glycated hemoglobin levels can be used as a predictive value for cardiovascular disease and mortality in patients with diabetes mellitus. B. Dutta et al.[7] 2016 Also, the elevated hemoglobin A1C is regarded as an independent risk factor for coronary artery disease in patients with or without diabetes mellitus. In several studies, the increased incidence and risk of developing coronary artery disease have been positively linked with diabetes. The present study was conducted to correlate coronary artery disease severity and glycosylated hemoglobin in diabetic and non-diabetic patients. A total of 400 subjects were included in the final analysis.

In the present study, 57.97 ± 11.59 was the mean age of the study population. Dutta B et al[7], conducted a study in 346 patients in which 58.1 ± 10.4 years was the mean age of the participants.

Table 41: Comparison of mean age between various studies.

Study	Population	Mean age
Present study	400	57.97 ± 11.59
Dutta B, et al.[7]	346	58.1±10.4
Ewid M, et al.[5]	38	50.87 ± 9.56

In the current study, 16% of the participants belonged to the age group between 25 to 45 years, 42.25% belonged to the age group between 46 to 60 years, 36% to the age group between 61 to 75 years, 5.75% participants to the age group between 76 to 85 years. Taimur SDM et al[56], conducted a cross-sectional study in 158 patients in which 21% of participants belonged to the age group between 28-45 years, 43% belonged to the age group between 45-

60 years, 31% belonged to the age group between 61-75 years and 5% belonged to the age group between 76-85 years.

In the present study, the proportion of males and females were identified with 82.25% and 17.75% respectively. In a prospective study performed by Dutta B et al[7], in which 91.9% of the participants were males, and 8.1% were females.

In the current study, ST-elevation MI, non-ST elevation MI, unstable angina, and stable angina were identified with 61.25%, 18.5%, 11.25%, and 9% respectively.

In the present study, the history of diabetes was identified in 50% of participants whereas, hypertension, hypothyroidism, and PVD were identified with 46.5%, 2% ,and 1.3% respectively. In a prospective study performed by Hong L-F et al[64], the history of diabetes, hypertension and PVD were identified in 26.1%, 63.4% ,and 1.8% respectively. Ewid M et al[5], conducted a cross-sectional study in 38 patients in which 55.3% had diabetes whereas, 29.4% had hypertension.

In the current study, a family history of heart disease was observed in 4.5% of the participants. Habib S et al[65], conducted a study in 119 participants in which 37% of the participants had a family history of CAD.

In the present study, the history of smoking was noticed at 30.25%, whereas alcoholism in 85.5%. Kamal A et al[48], conducted a study in 150 patients in which 62.7% of the participants had a history of smoking.

In the current study, the mean of pulse, SBP, DBP, respiratory rate, and temperature were noticed with 81.37 ± 12.39, 120.78 ± 22.39, 77.28 ± 11.39, 17.57 ± 2.29, and 99.1 ± 0.41 respectively. Habib S et al.,[65] conducted a study in 119 participants in which the median of SBP and DBP were 120 (110-130) and 78 (70-80) respectively.

In the present study, the mean BMI was 27.96 ± 3. In a cross-sectional study performed by Ewid M et al[5], in which 28.3 ± 5.8 was the mean BMI of the participants.

Table 42: Comparison of mean of BMI from various studies.

Study	Population	BMI
Present study	400	27.96 ± 3.91
Ewid M, et al.[5]	38	28.3 ± 5.8
Kamal A, et al.[48]	150	29.2 ± 3

In the present study, 25% of the participants belonged to normal weight 44.75% of participants to overweight, 24.5% of participants to type 1 obesity, and 5.75% to type 2 obesity. Dar MI et al[60], performed a study in 208 patients in which normal weight, overweight, obesity class I were identified with 69.05%, 16.43%, and 14.39% respectively.

In the current study, the mean of Hb, WBC, platelets, urea, serum creatinine, sodium, potassium, chloride, RBS, HbA1c, TC, HDL, serum triglycerides, LDL, and VLDL were observed with 14.04 ± 5.94, 12.35 ± 35.42, 259.09 ± 81.89, 25.95 ± 9.61, 1.19 ± 5.14, 137.61 ± 61.37, 4.66 ± 5.45, 100.81 ± 12.82, 167.55 ± 77.68, 7.69 ± 4.71, 190.56 ± 44.09, 35.86 ± 9.11, 171.93 ± 60.27, 114.42 ± 29.1 and 33.55 ± 12.49 respectively. In a prospective study performed by Hong L-F et al[64], in which the mean of Hb, WBC, platelets, serum creatinine, TC, HDL, triglycerides, and LDL were 139.9 ± 15.1, 6.4 ± 1.6, 205.1 ± 60.7, 75.6 ± 16.2, 4.2 ± 1.1, 1.1 ± 0.3, 4.2 ± 1.1 and 2.5 ± 0.9 respectively. Kamal A et al[48], conducted a study in 150 patients in which the mean of HbA1c, TC, triglycerides, HDL, LDL, and creatinine were 7.7 ± 2.4, 194.7 ± 49.5, 168.6 ± 67.4, 34.5 ± 8.6, 126.2 ± 41.5 and 1± 0.28 respectively.

In the present study, the total cholesterol was normal in 58.25% whereas, on the borderline in 27% and high at 14.75%. Whereas, the HDL was low at 75.75% while normal at 23% and high in 1.25%. And LDL was identified normally in 32.5% whereas, on the borderline in

29.75% and high in 4.5%. Serum triglycerides were normal in 40.25% while on the borderline in 41.5% and high in 18% of participants.

In the current study, troponin I was high in 80.5% of the patients and the remaining 19.5% of participants had a normal level of troponin I.

In the present study, 20.25% of the participants had a normal ECG, whereas, 18.5% of participants had NSTEMI, and 61.25% of participants had STEMI. In a population of 150 participants Kamal A, et al[48], conducted a study in which unstable angina, STEMI and NSTEMI were identified with 45.3%, 26.7% and 28% respectively.

In the current study, the mean of LV Function was 47.32 ± 10.15. Kamal A et al[48], conducted a study in 150 patients in which 53.8 ± 11.7 was the mean of LV function.

In the present study, 46.75% of participants had a normal LV Function, while 35% of participants had mild LV Function, 15.75% of participants had moderate LV Function, and 2.5% of participants had severe LV Function. Ewid M et al[5], conducted a cross-sectional study in 38 patients in which normal, mild, moderate and severe LV function were identified with 47.37%, 7.89%, 7.89% and 5.27% respectively.

In the current study, LMCA was identified in 9.25% Whereas, ACC/AHA Grade A, ACC/AHA Grade B and ACC/AHA Grade C were identified with 3.8%, 1.8% and 3.8% respectively.

In the present study, 2.5% of participants were identified with critical triple vessel disease, 25.25% of participants had triple vessel disease, 29.75% of participants had double vessel disease, 37.5% had single-vessel disease, 5% of participants had minor coronary artery disease. Habib S et al[65], conducted a study in 119 participants in which single vessel, double, and triple vessel disease were identified in 37,8%, 26.9% and 33.8% respectively.

In the current study, 77.5% of participants were received with percutaneous transluminal coronary angioplasty, 14.5% with optimum medical treatment and 8% of participants with a coronary artery bypass graft. Zarif HMA. et al[66], conducted a descriptive comparative study in 458 patients in which 39.87% belonged to CAG, 58.16% belonged to CAG + PCI, and 1.96% belonged to CA + PTCA.

In the present study, the mean of Hba1C was 7.47 ± 2.26. In a cross-sectional study performed by Ewid M, et al[5], in which 5.7 ± 0.45 was the mean of Hba1C identified in participants.

Table 43: Comparison of mean of HbA1c in various studies.

Study	Population	Hba1C
Present study	400	7.47 ± 2.26
Ewid M, et al.[5]	38	5.7 ± 0.45
Kamal A, et al.[48]	400	7.7 ± 2.4

In the current study, HBA1C was less than 5 in 1.25%, HBA1C was between 5 to 5.69 in 23.75%, Whereas, between 5.7 to 6 in 11%, 6.1to 6.49 in 14%, 6.5 to 6.99 in 8.25%, 7 to 7.99 in 8%, 8 to 9.99 in 20%, 10 to 11.99 in 8%, 12 to 13.99 in 4% and more than or equal to 14 1.75%. Mirza AJ, et al[67], performed a study in 320 patients in which 19.25% had HbA1c < 4.8%, 30.74% had HbA1c between 4.8-5.3%, 26.1% had HbA1c between 5.4-5.8% and 24% had HbA1c between 5.9-6.5%.

In the present study, 25% of participant's diabetes was normal, 25% of participants were pre-diabetic, and 50% of participants were diabetic. Dar MI et al[60], conducted a study in 209 patients in which 18.80% of participant's diabetes was normal while 39.40% were pre-diabetic and 41.80% diabetic.

Among normal study population, Age>60, male, hypertension, hypothyroidism, smoking, family history, dyslipidemia, BMI>25 PVD were identified with 21%, 85%, 33%, 0%, 30%, 11%, 46%, 72% and 1% whereas, in prediabetics with 47%, 90%, 28%, 2%, 35%, 4%, 50%, 63% and1% and in diabetics with 49.5%, 77%, 55.5%, 1.5%, 28.5%, 1.5%, 61.5%, 77.5% and 1.5%. Zarif HMA., et al[66], conducted a descriptive comparative study in which among the normal study population, male gender, hypertension, smoking, family history, dyslipidemia were identified with 86.71%, 25.17%, 34.26%, 8.39% and 78.32% Whereas in pre diabetic group, male gender, hypertension, smoking, family history, dyslipidemia were identified with 86.36%, 43.63%, 56.36%, 26.36%, 88.18% and in diabetic group with 79.02%, 59.51%,50.24%, 20.98% and 92.20% respectively.

In the current study, 8.5% have belonged to low disease whereas, the moderate and severe disease was identified in 8.25% and 83.25% respectively.

Among the study population, the median of HBA1C was 6.32 (5.67,8.2) in LMC ACC/AHA grade A whereas, LMC ACC/AHA grade B and LMC ACC/AHA grade C was identified with 6.28 (5.75,9.64) and 6.35 (5.7,10.64) respectively.

In the present study, the median of HBA1C was 6.2 (5.61,8.09) in LAD ACC/AHA grade A, whereas, LAD ACC/AHA grade B and LAD ACC/AHA grade C were identified with 7.01 (5.9,8.9) and 6.51 (5.78,8.97) respectively.

In the current study, the median of HBA1C was 6.9 (5.98,8.97) in LCX ACC/AHA grade A, While LCX ACC/AHA grade B and LCX ACC/AHA grade, C was identified with 7.21 (6.21,9.36) and 6.92 (5.85,9.2) respectively. In the present study, the median of HBA1C was

6.7 (5.67,8.9) in RCA ACC/AHA grade A, whereas, RCA ACC/AHA grade B and RCA ACC/AHA grade C were identified with 7.6 (6.11,9.05) and 6.9 (5.89,9.35) respectively.

In the current study, the median of HBA1C was 6.2 (5.62,8.33) in the low-risk group whereas, in the moderate-risk group and high-risk group were 6.7 (5.68,8.58) and 6.5 (5.77,8.96) respectively. In the present study, the median of HBA1C was 5.5 (5.38,5.64) in a low-risk group, whereas, 5.55 (5.49,5.67) in the moderate-risk group and 5.46 (5.38,5.63) in the high-risk group. Among the pre-diabetic study population, **t**he median of HBA1C was 6.2 (5.96,6.28) in a low-risk group, 5.9 (5.87,6.22) in the moderate-risk group and 6.12 (5.85,6.24) high-risk group. Among the diabetic study population**,** the median of HBA1C was 8.45 (7.52,9.69) in a low-risk group, whereas, 7.95 (7.18,9) in the moderate-risk group and 8.96 (7.65,10.54) in the high-risk group.

Out of 100 normal people, 13% of the participants belonged to low risk in final AHA/ABC class whereas, 10% to moderate risk in final AHA/ABC class and 77% to high risk in final AHA/ABC class. Whereas out of 100 pre-diabetic people, 7% of the participants belonged to low risk in final AHA/ABC class, 4% to moderate risk in final AHA/ABC class and 89% to high risk in final AHA/ABC class. Out of 200 normal people, 7% of participants were belonged to low risk in final AHA/ABC class, while 9.5% to moderate risk in final AHA/ABC class and 83.5% to high risk in final AHA/ABC class.

Our study found increased HbA1c levels in all 3 groups; low risk, moderate risk, and a high-risk group of CAD, although there was no statistical difference across the groups.

CONCLUSION

- A total of 400 subjects were included in the final analysis.
- The mean age of the participants was 57.97 ± 11.59.
- The majority of the participants have belonged to the age group between 46-60 years with 42.25%, 36% belonged to the age group between 61 to 75 years, 16% participants belonged to the age group between 25 to 45 years and 5.75% participants belonged to the age group between 76 to 85 years.
- The majority of the participants were males with 82.25%, followed by females with 17.75%.
- ST-elevation MI, non-ST elevation MI, unstable angina, and stable angina were the clinical presentation identified with 61.25%, 18.5%, 11.25% and 9% respectively.
- The history of diabetes, hypertension, hypothyroidism, and PVD were identified with 50%, 46.5%, 2%, and 1.3% respectively.
- A family history of heart disease was identified in 4.5% of the participants.
- History of smoking and alcoholism were identified in 30.25% and 85.5% of participants.
- The mean of pulse, SBP, DBP, respiratory rate, and temperature were noticed with 81.37 ± 12.39, 120.78 ± 22.39, 77.28 ± 11.39, 17.57 ± 2.29, and 99.1 ± 0.41 respectively.
- The mean BMI identified in the study population was 27.96 ± 3.91.

- The majority of the participants were belonged overweight with 44.75% followed by normal weight, type I obesity, and type 2 obesity with 25%, 24.5%, and 5.75% respectively.
- The mean of Hb, WBC, platelets, urea, serum creatinine, sodium, potassium, chloride, RBS, HbA1c, TC, HDL, serum triglycerides, LDL, and VLDL were observed with 14.04 ± 5.94, 12.35 ± 35.42, 259.09 ± 81.89, 25.95 ± 9.61, 1.19 ± 5.14, 137.61 ± 61.37, 4.66 ± 5.45, 100.81 ± 12.82, 167.55 ± 77.68, 7.69 ± 4.71, 190.56 ± 44.09, 35.86 ± 9.11, 171.93 ± 60.27, 114.42 ± 29.1, and 33.55 ± 12.49 respectively.
- Among the study population, total cholesterol was normal in 58.25% whereas, on the borderline in 27%, and high in 14.75%.
- The HDL was low in 75.75% while normal at 23% and high in 1.25%.
- Among the study population, LDL was identified as normal in 32.5% whereas, on the borderline in 29.75% and high in 4.5%.
- Serum triglycerides were normal in 40.25% while on the borderline in 41.5% and high in 18% of participants.
- Troponin I was elevated in 80.5% of the participants.
- NSTEMI and STEMI were identified in 18.5% and 61.25% of the participants.
- The mean of LV Function in the study population was 47.32 ± 10.15.
- LV function was normal in 46.75% of participants whereas, mild, moderate and severe were identified with 35%, 15.75%, and 2.5% respectively.
- Among the study population, LMCA was identified in 9.25% Whereas, ACC/AHA Grade A, ACC/AHA Grade B, and ACC/AHA Grade C were identified with 3.8%, 1.8% ,and 3.8% respectively.

- Among the study population, LAD was identified in 82.25% of participants while ACC/AHA Grade A, ACC/AHA Grade B ,and ACC/AHA Grade C with 16.3%, 15.8% ,and 54.3% respectively.
- Among the study population, LCX was identified in 52.25% whereas, ACC/AHA Grade A, ACC/AHA Grade B, and ACC/AHA Grade c with 11.3%, 16%, and 25.3% respectively.
- Among the study population, RCA was identified with 65% while ACC/AHA Grade A, ACC/AHA Grade B, and ACC/AHA Grade C with 13.8%, 11.3%, and 40.5% respectively.
- Critical triple vessel disease, triple vessel disease, double vessel disease, single-vessel disease, and minor coronary artery disease were the final diagnosis identified in the study population with 2.5%, 25.25%, 29.75%, 37.5%, and 5% respectively.
- Percutaneous transluminal coronary angioplasty, optimum medical treatment, and coronary artery bypass graft were the treatment provided in the study population with 77.5%, 14.5%, and 8% respectively.
- The mean of Hba1C in the study population was 7.47 ± 2.26.
- Among the study population, HBA1C was less than 5 in 1.25%, HBA1C was between 5 to 5.69 in 23.75%, Whereas, between 5.7 to 6 in 11%, 6.1to 6.49 in 14%, 6.5 to 6.99 in 8.25%, 7 to 7.99 in 8%, 8 to 9.99 in 20%, 10 to 11.99 in 8%, 12 to 13.99 in 4% and more than or equal to 14 1.75%.
- Diabetes was normal in 25% whereas 25% pre-diabetic and 50% diabetic.
- Around 8.5% were belonged to low disease whereas, the moderate and severe disease was identified in 8.25% and 83.25% respectively.

- Among the study population, the median of HBA1C was 6.32 (5.67,8.2) in LMC ACC/AHA grade A whereas, LMC ACC/AHA grade B, and LMC ACC/AHA grade C were identified with 6.28 (5.75,9.64), and 6.35 (5.7,10.64) respectively.
- The median of HBA1C was 6.2 (5.61,8.09) in LAD ACC/AHA grade A, whereas, LAD ACC/AHA grade B, and LAD ACC/AHA grade C were identified with 7.01 (5.9,8.9) and 6.51 (5.78,8.97) respectively.
- The median of HBA1C was 6.9 (5.98,8.97) in LCX ACC/AHA grade A, While LCX ACC/AHA grade B, and LCX ACC/AHA grade C was identified with 7.21 (6.21,9.36) and 6.92 (5.85,9.2) respectively.
- The median of HBA1C was 6.7 (5.67,8.9) in RCA ACC/AHA grade A, whereas, RCA ACC/AHA grade B, and RCA ACC/AHA grade C were identified with 7.6 (6.11,9.05) and 6.9 (5.89,9.35) respectively.
- The median of HBA1C was 6.2 (5.62,8.33) in the low-risk group whereas, in the moderate-risk group, and high-risk group was 6.7 (5.68,8.58) and 6.5 (5.77,8.96) respectively.
- The median of HBA1C was 5.5 (5.38,5.64) in a low-risk group, whereas, 5.55 (5.49,5.67) in the moderate-risk group, and 5.46 (5.38,5.63) in the high-risk group.
- Among the pre-diabetic, **t**he median of HBA1C was 6.2 (5.96,6.28) in a low-risk group, it was 5.9 (5.87,6.22) in the moderate-risk group, and it was 6.12 (5.85,6.24), high-risk group.
- Among the diabetic patients**,** the median of HBA1C was 8.45 (7.52,9.69) in a low-risk group, whereas, 7.95 (7.18,9) in the moderate-risk group and 8.96 (7.65,10.54) in the high-risk group.

- Out of 100 normal people, 13% of the participants were belonged to low risk in final AHA/ABC class whereas, 10% to moderate risk in final AHA/ABC class and 77% to high risk in final AHA/ABC class.
- Out of 100 pre-diabetic people, 7% of the participants belonged to low risk in final AHA/ABC class, 4% to moderate risk in final AHA/ABC class, and 89% to high risk in final AHA/ABC class.
- Out of 200 diabetic people, 7% of participants were belonged to low risk in final AHA/ABC class, while 9.5% to moderate risk in final AHA/ABC class and 83.5% to high risk in final AHA/ABC class.
- Our study found increased HbA1c levels in all 3 groups; low-risk, moderate-risk and high -risk group of CAD, although there was no statistical difference across the groups. Hence, through our study, we found that increased HbA1c levels can be one of the independent risk factors for the development of CAD.

LIMITATIONS

In the present study majority of the patients are males, and this was mainly because of the demographic profile of the admitted patients. This is a single-center study so that some subgroup comparisons may have lacked the power to detect significant differences for selected variables. Third, we used a single baseline measurement of HbA1c. Hence, we cannot evaluate the effects of changes in this parameter over the long-term. So, a prospective long-term study would be ideal for analyzing prognostic importance and outcomes.

RECOMMENDATIONS:

The study can be conducted with an increased duration of the study period. Follow-up of the study population can also be performed in the study.

SUMMARY

The presence of diabetes mellitus increases the risk of cardiovascular diseases. The main cause of death in both type 1 and type 2 patients is coronary artery disease. Worldwide, coronary artery disease has emerged as the single most important cause of mortality and morbidity. Glycated hemoglobin values reflect two to three months average endogenous exposure to glucose, including postprandial spikes in blood glucose level, and have low intra-individual variability, particularly in non-diabetic patients.

Glycated hemoglobin levels can be used as a predictive value for cardiovascular disease and mortality in patients with diabetes mellitus (B. Dutta et al., 2016) Also; elevated hemoglobin A1C is regarded as an independent risk factor for CAD in patients with or without diabetes mellitus. In a number of studies, the increased incidence and risk of developing coronary artery disease have been positively linked with diabetes.

The present study was conducted to correlate coronary artery disease severity and glycosylated hemoglobin in diabetic and non-diabetic patients. A total of 400 subjects were included in the final analysis. The mean age of the participants was 57.97 ± 11.59.The majority of the participants were males with 82.25%. ST-elevation MI, non-ST elevation MI, unstable angina, and stable angina were the clinical presentation identified with 61.25%, 18.5%, 11.25%, and 9% respectively. The past history of diabetes and hypertension were identified with 50% and 46.5%. History of smoking and alcoholism were identified in 30.25% and 85.5% of participants. The mean of Hb, WBC, platelets, urea, serum creatinine, sodium, potassium, chloride, RBS, HbA1c, TC, HDL, serum triglycerides, LDL, and VLDL were observed with 14.04 ± 5.94, 12.35 ± 35.42, 259.09 ± 81.89, 25.95 ± 9.61, 1.19 ± 5.14, 137.61 ± 61.37, 4.66 ± 5.45, 100.81 ± 12.82, 167.55 ± 77.68, 7.69 ± 4.71, 190.56 ± 44.09, 35.86 ± 9.11, 171.93 ± 60.27, 114.42 ± 29.1, and 33.55 ± 12.49 respectively. Troponin I was elevated

in 80.5% of the participants. NSTEMI and STEMI were identified in 18.5% and 61.25% of the participants. The mean of LV Function in the study population was 47.32 ± 10.15. Among the study population, LMCA was identified in 9.25% whereas, Whereas, LCX and RCA in 52.25% and 65%. The mean of Hba1C in the study population was 7.47 ± 2.26. The median of HBA1C in LMC ACC/AHA grade A, grade B, and grade C were 6.32 (5.67,8.2) 6.28 (5.75,9.64), and 6.35 (5.7,10.64) respectively. Whereas, the median of HBA1C in LAD ACC/AHA grade A, grade B, and grade C were 6.2 (5.61,8.09), 7.01 (5.9,8.9), and 6.51 (5.78,8.97) respectively. The median of HBA1C in LCX ACC/AHA grade A, grade B, and grade C was 6.9 (5.98,8.97), 7.21 (6.21,9.36), and 6.92 (5.85,9.2) respectively. While the median of HBA1C in RCA ACC/AHA grade A, grade B, and grade C were 6.7 (5.67,8.9), 7.6 (6.11,9.05), and 6.9 (5.89,9.35) respectively.

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ANNEXURES

PROFORMA FOR DATA COLLECTION

NAME: **UHID/IP NO:**

AGE:

GENDER:

OCCUPATION:

HISTORY:

PAST HISTORY: **FAMILY HISTORY:** **PERSONAL HISTORY:**

GENERAL PHYSICAL EXAMINATION:

PULSE: **BLOOD PRESSURE:**

RESPIRATORY RATE: **TEMPERATURE:**

SYSTEMIC EXAMINATION:

CARDIOVASCULAR EXAMINATION: **RESPIRATORY EXAMINATION:**

PER ABDOMINAL EXAMINATION: **CNS EXAMINATION:**

LABORATORY TESTS:

HB	**WBC**	**PLATELETS**

BL UREA	**SR CREATININE**	**SODIUM**	**POTASSIUM**	**CHLORIDE**

RBS	**HbA1C**

ECG-

(HB-Hemoglobin, WBC-white blood cells,Bl-blood,SR-serum,RBS-random blood sugar, HbA1C-Glycated Hemoglobin)

Total Cholesterol	HDL	Sr Triglycerides	LDL	VLDL

2D ECHO FINDINGS: **CLINICAL DIAGNOSIS:**

CORONARY ANGIOGRAM FINDINGS: **WITH ACC/AHA ABC**

LMCA		
LAD		
LCX		
MARGINALS		
RCA		
FINAL DIAGNOSIS		

SUMMARY

HbA1c	
DIABETIS	
HYPERTENSION	
PREDIABETES	
DYSLIPIDEMIA	
FINAL AHA ABC CLASS	

(HDL- high-density lipoprotein cholesterol; LDL- low-density lipoprotein cholesterol; VLDL-very low density lipoprotein;ACC- The American college of Cardiology;AHA-American Heart Association; LMCA- Left Main Coronary Artery; LAD-Left anterior descending artery; LCX - Left Circumflex artery; RCA-Right coronary artery)

INFORMED CONSENT FORM

SUBJECT'S NAME:
HOSPITAL NUMBER:

TITLE: CORRELATIVE STUDY OF CORONARY ARTERY DISEASE SEVERITY AND GLYCOSYLATED HEMOGLOBIN IN DIABETIC AND NON-DIABETIC PATIENTS.

If you agree to participate in the study, we will collect information (as per proforma) from you or a person responsible for you or both. We will collect the treatment and relevant details from your hospital record. This information collected will be used for only dissertation and publication. This study has been reviewed by the institutional ethical committee. The care you will get will not change if you don't wish to participate. You are required to sign/ provide thumb impression only if you voluntarily agree to participate in this study.

I understand that I remain free to withdraw from the study at any time and this will not change my future care. I have read or have been read to me and understood the purpose of the study, the procedure that will be used, the risk and benefits associated with my involvement in the study and the nature of information that will be collected and disclosed during the study. I have had the opportunity to ask my questions regarding various aspects of the study and my questions are answered to my satisfaction. I, the undersigned agree to participate in this study and authorize the collection and disclosure of my personal information for publication.

Subject name:

(Parents / Guardians name)

DATE:

SIGNATURE /THUMB IMPRESSION

PATIENT INFORMATION SHEET

Study Title: CORRELATIVE STUDY OF CORONARY ARTERY DISEASE SEVERITY AND GLYCOSYLATED HEMOGLOBIN IN DIABETIC AND NON-DIABETIC PATIENTS.
Principal investigator: Dr.Manchu.Deepthi

Study site : R.L Jalappa Hospital and Research Center attached to Sri Devaraj Urs Medical College, Tamaka, Kolar.

Purpose of the study: Diabetes mellitus is a major risk factor for the development of coronary artery disease and adversely affects patients overall clinical outcomes. The aim of the present study is to study the coronary angiogram finding in diabetics and non-diabetics and to correlate the findings with HbA1c.

Voluntary Participation: Your participation in this study is entirely voluntary. There is no compulsion to participate in this study. You will be no way affected if you do not wish to participate in the study. You are required to sign only if you voluntarily agree to participate in this study. Further you are at a liberty to withdraw from the study at any time. We assure you that your withdrawal will not affect your treatment by the concerned physician in any way.

Procedure : we will take detailed history and send your blood samples for Complete blood picture, Bloodurea, serumcreatinine, Serumelectrolytes, Lipidprofile,Random blood sugar and HBa1c.After cardiac evaluation, you will undergo coronary angiogram.
Confidentiality: All information collected from you will be strictly confidential & will not be disclosed to anyone except if it is required by the law. This information collected will be used only for research. This information will not reveal your identity.

We would not compel you any time during this process; also we would greatly appreciate your cooperation to the study. We would like to get your consent to participate in the study.

For any information you are free to contact investigator. This study has been approved by the Institutional Ethics Committee & has been started only after their formal approval. The sample collected will be stored in the institute and I request you to permit us to store and use this sample for any future study.

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For any further clarification you can contact the study investigator:

Dr.Manchu Deepthi (Post graduate)
Department of General Medicine
SDUMC , KOLAR
Contact No : 9490181770

ರೋಗಿಯ ತಿಳುವಳಿಕೆ ಸಮ್ಮತಿ ನಮೂನೆ

ಸಂಶೋಧಕರ ಹೆಸರು: **ಡಾ||ಎಂ.ದಿಪ್ತಿ**

ಸಂಸ್ಥೆಯ ಹೆಸರು: ಆರ್.ಎಲ್ ಜಲಪ್ಪ ಆಸ್ಪತ್ರೆ ಮತ್ತು ಸಂಶೋಧನಾ ಕೇಂದ್ರ - ಶ್ರೀ ದೇವರಾಜ್ ಅರಸ್ ಮೆಡಿಕಲ್ ಕಾಲೇಜ್ಸ್ಜೋಡಿಸಲಾಗಿದೆ.

ಪಾಲ್ಗೊಳ್ಳುವವರ ಹೆಸರು: ಕ್ರಮ ಸಂಖ್ಯೆ :

ನಾನು ಶ್ರೀ / ಶ್ರೀಮತಿ ನನಗೆ ಆರ್. ಎಲ್. ಜಲಪ್ಪ ಆಸ್ಪತ್ರೆಯಲ್ಲಿ ನಡೆಸಲಾಗುತ್ತಿರುವ ಅಧ್ಯಯನ ಡಯಾಬೆಟಿಕ್ ಮತ್ತು ನಾನ್-ಡಯಾಬೆಟಿಕ್ ಪಾಟೀಟ್ಸ್ನಲ್ಲಿ ಕೊಲೊನಿ ಆರ್ಟರಿ ಡಿಸೀಸ್ ಸೆವೆರಿಟಿ ಮತ್ತು ಗ್ಲೈಕೋಸೈಲಾಡ್ ಹೆಮೋಗ್ಲೋಬಿನ್ನ ಪರಸ್ಪರ ಸಂಬಂಧಿತ ಅಧ್ಯಯನದಲ್ಲಿ ನನ್ನನ್ನು ಸೇರಿಸಲ್ಪಡಲಾಗುವುದು ಎಂದು ನನಗೆ ಅರ್ಥವಾಗುವ ಭಾಷೆಯಲ್ಲಿ ವಿವರಿಸಲಾಗಿದೆ.

ಈ ಸಂಶೋಧನಾ ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಲು ನನ್ನನ್ನು ಆಹ್ವಾನಿಸಲಾಗಿದೆ. ಈ ದಾಖಲೆಯಲ್ಲಿರುವ ಮಾಹಿತಿಯು ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಬೇಕೇ ಅಥವಾ ಬೇಡವೇ ಎಂಬುದನ್ನು ನಿರ್ಧರಿಸಲು ನನಗೆ ನೆರವಾಗುವುದು. ಪ್ರಧಾನಸಂಶೋಧಕನೊಂದಿಗೆ ನಾನು ಈ ಅಧ್ಯಯನಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ನನ್ನ ಅನುಮಾನಗಳನ್ನು ಸ್ಪಷ್ಟಪಡಿಸಿಕೂಂಡಿದ್ದೆನೆ.

ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳುವಂತೆ ನನಗೆ ಸೂಚಿಸಲಾಗಿದೆ ಏಕೆಂದರೆ ನಾನು ಅರ್ಹತಾ ಮಾನದಂಡಗಳನ್ನು ಪೂರೈಸುತ್ತೇನೆ. ನನ್ನ ರಕ್ತದ ಮಾದರಿಯನ್ನು ಗೊತ್ತುಪಡಿಸಿದ ಪರೀಕ್ಷೆಗಳಿಗೆ ನಿರ್ವಹಿಸಲು ನಾನು ಡಾ||ಎಂ.ದಿಪ್ತಿ ಅವರನ್ನು ವಿನಂತಿಸುತ್ತೇನೆ ಮತ್ತು ಅಧಿಕಾರವನ್ನು ನೀಡುತ್ತೇನೆ. ಕೆಳಗಿನ ನನ್ನ ಸಹಿಯು ಅರ್ಹ ಆರೋಗ್ಯ ವೃತ್ತಿಪರರಿಂದ ಪರೀಕ್ಷೆಯ ಅನುಕೂಲಗಳು, ಅಪಾಯಗಳು ಮತ್ತು ಮಿತಿಗಳನ್ನು ನನ್ನ ತೃಪ್ತಿಗೆ ವಿವರಿಸಲಾಗಿದೆ ಎಂದು ನನ್ನ ಅಂಗೀಕಾರವನ್ನು ರೂಪಿಸುತ್ತದೆ. ಭಾಗವಹಿಸುವಿಕೆ ಸಂಪೂರ್ಣವಾಗಿ ಸ್ವಯಂಪ್ರೇರಿತವಾಗಿರುತ್ತದೆ ಮತ್ತು ಮಾದರಿ ಸಂಗ್ರಹಣೆಗೆ ಯಾವುದೇ ಹಣಕಾಸಿನ ಪಾವತಿಯಿಲ್ಲ. ಎಲ್ಲಾ ಪರೀಕ್ಷಾ ಫಲಿತಾಂಶಗಳನ್ನು ವೈದ್ಯಕೀಯ ಗೌಪ್ಯತೆಯೊಂದಿಗೆ ಪರಿಗಣಿಸಲಾಗುತ್ತದೆ ಮತ್ತು ಕಾನೂನಿನ ಅಗತ್ಯವಿದ್ದರೆ ಹೊರತುಪಡಿಸಿ ಯಾವುದೇ ಹೊರಗಿನವರಿಗೆ ಬಹಿರಂಗಪಡಿಸುವುದಿಲ್ಲ.

ನನ್ನ ಗೌಪ್ಯತೆ ನಿರ್ವಹಿಸಲ್ಪಡುವವರೆಗೆ ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆ, ಪರೀಕ್ಷೆಯ ಮೌಲ್ಯಮಾಪನ ಅಥವಾ ಶಿಕ್ಷಣಕ್ಕಾಗಿ ನನ್ನ ಮಾದರಿಯನ್ನು ಬಳಸಲು ನನ್ನ ಒಪ್ಪಿಗೆಯನ್ನು ನೀಡುತ್ತೇನೆ. ನಾನು ಈ ಅಧ್ಯಯನದಿಂದ ಯಾವುದೇ ಸಮಯದಲ್ಲಿ ಹಿಂತೆಗೆದುಕೊಳ್ಳಲು ಮುಕ್ತವಾಗಿರುತ್ತೇನೆ ಮತ್ತು ಇದು ನನ್ನ ಮುಂದಿನ ಕಾಳಜಿಯನ್ನು ಬದಲಿಸುವುದಿಲ್ಲ ಎಂದು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ.

ರೋಗಿಯ ಮಾಹಿತಿ ಪತ್ರವನ್ನು ನಾನು ಓದಿದ್ದೇನೆ ಮತ್ತು ಪ್ರತಿಯನ್ನು ಸ್ವೀಕರಿಸಿದ್ದೇನೆ.ಈ ದಾಖಲೆಯಲ್ಲಿ ಒದಗಿಸಿದ ಮಾಹಿತಿಯನ್ನು ನಾನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ ಮತ್ತು ಪರೀಕ್ಷೆ, ಪ್ರಕ್ರಿಯೆ, ಸಂಬಂಧಿಸಿದ ಅಪಾಯ ಮತ್ತು ಪರ್ಯಾಯಗಳ ಬಗ್ಗೆ ನಾನು ಹೊಂದಿರುವ ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಲು
ನನಗೆ ಅವಕಾಶ ಕಲ್ಪಿಸಲಾಗಿದೆ .

ಹೆಸರು ಮತ್ತು ಸಹಿ / ಹೆಬ್ಬೆರಳುಗುರುತು
ದಿನಾಂಕ:

ಪೋಷಕರ / ಪಾಲಕರ ಹೆಸರು /ಹೆಬ್ಬೆರಳು ಗುರುತು
ದಿನಾಂಕ:

ಒಪ್ಪಿಗೆ ತೆಗೆದುಕೊಳ್ಳುವ ವ್ಯಕ್ತಿಯ ಸಹಿ
ದಿನಾಂಕ

MASTER CHART

Abbreviations

PVD	Peripheral Vascular Disease
LV	Left Ventricle
BMI	Body Mass Index
STEMI	St Elevation Myocardial Infarction
NSTEMI	Non-St Elevation Muocardial Infarction
UA	Unstable Angina
SA	Stable Angina
AWMI	Anterior Wall Myocardial Infarction
ILWMI	Inferior-Lateral Wall Myocardial Infarction
ALWMI	Anterior-Lateral Wall Myocardial Infarction
ASWMI	Anterior-Septal Wall Myocardial Infarction
AIWMI	Anterior-Inferior Wall Myocardial Infarction
CHB	Complete Heart Block
LBBB	Left Bundle Branch Block
IWMI	Inferior Wall Wall Myocardial Infarction
LWMI	Lateral Wall Wall Myocardial Infarction
LVH	Left Ventricle Hypertrophy
SVT	Supra-Ventricular Tachycardia
NFND	No Focal Neurological Deficit
Hb	Hemoglobin
WBC	White Blood Cells
RBS	Random Blood Sugar
HbA1c	Glycated Hemoglobin
HDL	High-Density Lipoprotein Cholesterol
LDL	Low-Density Lipoprotein Cholesterol

VLDL	Very Low Density Lipoprotein
AHA	American Heart Association
ACC	The American College Of Cardiology
LMCA	Left Main Coronary Artery
LAD	Left Anterior Descending Artery
LCX	Left Circumflex Artery
RCA	Right Coronary Artery
DM	Diabetes Mellitus
HTN	Hypertension
ECG	Electrocardiogram
2D ECHO	2-Dimensional Echocardiography
OMT	Optical Medical Treatment
PTCA	Percutaneous Trans luminal Coronary Angioplasty
CABG surgery	Coronary Artery Bypass Graft Surgery

MASTER SHEET

Sno	Patient id	Age	Gender	Clinical presentation	Diabetes	Hypertension	Hypothyroidism	PVD	Family history	H/O smoking	Alcohol	Pulse	SBP	DBP	Respiratory rate	Temperature	BMI	Cardiovascular	Respiratory	Per abdominal	CNS	HB	WBC	Platelets	Bl urea
1	709451	83	Male	ST Elevation MI	No	Yes	No	No	No	No	No	90	130	80	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	11.4	9.01	238	34
2	703208	65	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	120	80	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	10.2	8	190	22
3	712213	68	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	Yes	80	90	40	30	Normal	22	S1S2+.	B/LAE+	Soft	NFND	9.9	18	286	51
4	710349	64	Male	ST Elevation MI	No	No	No	No	No	Yes	No	72	130	80	20	Normal	26	S1S2+.	B/LAE+	Soft	NFND	13.7	10	227	34
5	712976	65	Male	ST Elevation MI	No	Yes	No	No	No	No	No	71	130	80	22	Normal	36	S1S2+.	B/LAE+	Soft	NFND	11.7	11	177	35
6	710416	54	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	Yes	60	80	60	18	Normal	34	S1S2+.	B/LAE+	Soft	NFND	11.8	8.75	284	40
7	710570	79	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	130	90	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	9.5	9.54	280	22
8	342139	48	Male	ST Elevation MI	No	No	No	No	No	Yes	No	86	120	80	16	Normal	30	S1S2+.	B/LAE+	Soft	NFND	16	7.14	212	26
9	642624	60	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	No	72	170	100	24	Normal	35	S1S2+.	B/LAE+	Soft	NFND	14	8	294	29
10	602812	65	Male	ST Elevation MI	No	No	No	No	No	No	No	82	120	80	20	Normal	28	S1S2+.	B/LAE+	Soft	NFND	15	9	200	35
11	602909	63	Male	ST Elevation MI	No	No	No	No	No	No	No	86	120	80	20	Normal	39	S1S2+.	B/LAE+	Soft	NFND	12.4	4.5	290	40
12	629039	28	Male	ST Elevation MI	No	No	No	No	No	No	No	82	120	80	16	Normal	33	S1S2+.	B/LAE+	Soft	NFND	15.1	10	225	36
13	626014	59	Male	ST Elevation MI	No	Yes	No	No	No	No	Yes	64	130	80	24	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14	7	242	16
14	603073	54	Male	ST Elevation MI	Yes	No	Yes	No	No	No	No	92	140	90	20	Normal	36	S1S2+.	B/LAE+	Soft	NFND	15	9	200	22
15	724728	52	Male	ST Elevation MI	No	No	No	No	No	Yes	No	80	120	80	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	18	9.4	368	20
16	725219	40	Male	ST Elevation MI	No	No	No	No	No	No	No	90	110	70	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13	9	246	18
17	716515	46	Female	Non-ST elevation MI	No	Yes	No	No	No	No	No	92	110	70	16	Normal	36	S1S2+.	B/LAE+	Soft	NFND	12	8	189	22
18	725683	65	Male	Unstable angina	Yes	No	No	No	No	No	No	69	110	90	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	17	7.2	287	16
19	724071	55	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	70	150	100	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	18.6	9.1	134	18
20	725701	35	Male	Non-ST elevation MI	Yes	No	No	No	No	Yes	No	90	100	70	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	15.4	12	442	10
21	724905	44	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	92	140	90	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	16	7.5	206	31
22	640319	49	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	100	130	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13.4	145	226	28
23	722639	54	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	76	110	70	18	Normal	35	S1S2+.	B/LAE+	Soft	NFND	16.8	10	245	17
24	598581	45	Male	ST Elevation MI	Yes	No	No	No	No	No	No	75	100	80	18	Normal	35	S1S2+.	B/LAE+	Soft	NFND	16	4.5	340	18
25	725013	51	Male	ST Elevation MI	No	No	No	No	No	Yes	No	86	110	70	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	17	7.2	325	20
26	726036	61	Male	ST Elevation MI	No	No	No	No	No	No	No	76	130	80	16	Normal	36	S1S2+.	B/LAE+	Soft	NFND	15	10	256	18
27	726051	54	Female	Non-ST elevation MI	No	No	No	No	No	No	No	80	130	90	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	11.3	8	262	30
28	717916	60	Male	ST Elevation MI	No	No	No	No	No	Yes	No	84	130	80	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	16	8.2	232	20
29	726154	60	Male	Non-ST elevation MI	No	No	No	No	No	No	No	86	100	70	18	Normal	34	S1S2+.	B/LAE+	Soft	NFND	16.5	4.5	260	18
30	726204	59	Male	ST Elevation MI	No	Yes	No	No	No	No	No	72	120	80	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	10.2	5.6	232	22
31	721694	40	Male	Non-ST elevation MI	Yes	Yes	No	No	No	Yes	No	80	110	70	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	14.4	6.8	211	22

32	726636	40	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	80	160	120	18	Normal	38	S1S2+.	B/LAE+	Soft	NFND	16	4.25	286	18
33	724905	62	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	65	140	80	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	11	2.6	186	14
34	726977	70	Male	ST Elevation MI	No	No	No	No	No	No	No	70	110	70	18	Normal	23	S1S2+.	B/LAE+	Soft	NFND	9.8	6.2	287	38
35	723759	55	Male	Non-ST elevation MI	No	No	No	No	No	Yes	No	82	110	70	16	Normal	35	S1S2+.	B/LAE+	Soft	NFND	12	8	226	2
36	726154	30	Male	ST Elevation MI	No	No	No	No	No	No	No	84	110	70	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	11	6	256	12
37	725982	75	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	65	130	80	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	15	12	236	12
38	727297	45	Male	Non-ST elevation MI	No	No	No	No	No	Yes	No	72	120	60	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	18	12	236	17
39	535076	75	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	86	140	70	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	14	7	189	18
40	727258	55	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	76	140	80	18	Normal	30.2	S1S2+.	B/LAE+	Soft	NFND	14	6.7	364	24
41	727276	54	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	80	140	90	20	Normal	35	S1S2+.	B/LAE+	Soft	NFND	14	4	287	18
42	724836	63	Male	ST Elevation MI	No	No	No	No	No	No	No	86	120	80	15	Normal	28	S1S2+.	B/LAE+	Soft	NFND	18	10	165	21
43	723892	55	Male	Non-ST elevation MI	No	Yes	No	No	No	No	No	89	130	90	16	Normal	35.6	S1S2+.	B/LAE+	Soft	NFND	15	10	236	19
44	726561	46	Male	Non-ST elevation MI	Yes	No	No	No	No	No	No	88	110	70	22	Normal	26	S1S2+.	B/LAE+	Soft	NFND	15	8	258	17
45	703948	55	Male	ST Elevation MI	No	No	No	No	No	No	No	80	140	80	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	11	5	342	14
46	727331	74	Male	ST Elevation MI	Yes	No	No	No	No	No	No	60	110	70	18	Normal	26.7	S1S2+.	B/LAE+	Soft	NFND	16	8	264	30
47	654975	45	Male	ST Elevation MI	No	No	No	No	No	No	No	120	80	60	30	Normal	25	S1S2+.	B/LAE+	Soft	NFND	16	4.6	272	18
48	727792	63	Male	ST Elevation MI	Yes	No	No	No	No	No	No	82	110	70	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	12.8	5.12	286	23
49	727678	45	Male	ST Elevation MI	No	No	No	No	No	No	No	72	150	110	18	Normal	30	S1S2+.	B/LAE+	Soft	NFND	14	9	268	14
50	727802	54	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	82	130	80	18	Normal	29	S1S2+.	B/LAE+	Soft	NFND	10	8	329	26
51	728411	49	Male	ST Elevation MI	No	No	No	No	No	No	No	86	110	60	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	16	4	198	28
52	728177	70	Male	Non-ST elevation MI	No	Yes	No	No	No	Yes	Yes	82	130	80	22	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	16	9.2	325	15
53	727622	63	Male	ST Elevation MI	Yes	No	No	No	No	No	No	86	110	70	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	16.2	4.5	286	17
54	727792	58	Male	Non-ST elevation MI	No	No	No	No	No	No	No	90	130	70	22	Normal	26	S1S2+.	B/LAE+	Soft	NFND	11	9	280	37
55	727946	65	Female	ST Elevation MI	No	Yes	No	No	No	No	No	80	110	70	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	10.5	5	312	17
56	725073	32	Female	Unstable angina	No	No	No	No	No	No	No	68	100	70	18	Normal	25	S1S2+.	B/LAE+	Soft	NFND	10	5	362	18
57	727373	55	Female	ST Elevation MI	No	No	No	No	No	No	No	80	110	70	16	Normal	30	S1S2+.	B/LAE+	Soft	NFND	10	6.9	326	41
58	721694	68	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	80	110	70	16	Normal	32.5	S1S2+.	B/LAE+	Soft	NFND	10	0	268	18
59	640319	65	Male	Non-ST elevation MI	Yes	No	No	No	No	Yes	No	90	110	70	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	14	9.1	328	20
60	743493	62	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	80	110	70	20	Normal	23	S1S2+.	B/LAE+	Soft	NFND	11	7	265	20
61	742243	40	Male	ST Elevation MI	No	No	No	No	No	No	No	76	130	80	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	16	9	387	28
62	745528	63	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	72	11	70	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	12	8	267	18
63	733887	85	Male	Unstable angina	No	Yes	No	No	No	No	No	86	90	60	22	Normal	30	S1S2+.	B/LAE+	Soft	NFND	12	7	210	20
64	745269	27	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	80	120	80	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	18	8	180	48
65	748857	45	Male	Non-ST elevation MI	No	No	No	No	No	No	No	86	120	80	16	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	14	10	190	20
66	741926	49	Male	ST Elevation MI	No	No	No	No	No	No	No	90	110	70	18	Normal	30	S1S2+.	B/LAE+	Soft	NFND	16	10	260	20
67	748406	65	Male	ST Elevation MI	Yes	No	No	No	No	No	No	92	110	80	22	Normal	31	S1S2+.	B/LAE+	Soft	NFND	15	8	260	18
68	748165	52	Male	ST Elevation MI	No	No	No	No	No	No	No	86	110	70	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	14	8.6	230	18
69	747809	60	Male	ST Elevation MI	No	No	No	No	No	Yes	No	90	110	70	18	Normal	26	S1S2+.	B/LAE+	Soft	NFND	15	10	240	18

70	750027	69	Male	Non-ST elevation MI	No	No	No	No	No	No	No	96	130	70	24	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13	9	290	18
71	749645	38	Male	ST Elevation MI	No	No	No	No	No	No	No	86	110	70	24	Normal	26	S1S2+.	B/LAE+	Soft	NFND	16	8	204	18
72	748843	47	Male	ST Elevation MI	Yes	No	No	No	No	No	No	90	110	70	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	18	6	190	18
73	749086	45	Male	Non-ST elevation MI	No	No	No	No	No	Yes	No	80	140	80	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	17	8	250	18
74	748406	63	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	82	130	80	16	Normal	31	S1S2+.	B/LAE+	Soft	NFND	14	9	150	19
75	747809	49	Male	ST Elevation MI	No	No	No	No	No	No	No	90	130	80	18	Normal	29.5	S1S2+.	B/LAE+	Soft	NFND	18	9	258	21
76	748252	76	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	102	140	80	25	Normal	26	S1S2+.	B/LAE+	Soft	NFND	16	8	129	29
77	750550	48	Male	Non-ST elevation MI	No	No	No	No	No	No	No	90	100	70	20	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14	8	260	38
78	540726	63	Male	ST Elevation MI	Yes	No	No	No	No	No	No	60	90	60	22	Normal	32	S1S2+.	B/LAE+	Soft	NFND	17	9	210	20
79	750479	28	Male	ST Elevation MI	No	No	No	No	No	No	No	80	110	70	16	Normal	25.4	S1S2+.	B/LAE+	Soft	NFND	17	10	240	11
80	750584	46	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	90	110	70	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14	8	260	29
81	750868	35	Male	ST Elevation MI	No	No	No	No	No	Yes	No	80	120	80	18	Normal	26	S1S2+.	B/LAE+	Soft	NFND	14	8	260	10
82	750031	56	Male	ST Elevation MI	Yes	No	No	No	No	No	No	82	120	80	14	Normal	27	S1S2+.	B/LAE+	Soft	NFND	15	9	256	45
83	751389	49	Male	ST Elevation MI	No	Yes	No	No	No	No	No	86	130	70	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	18	6	256	28
84	751057	43	Male	Stable angina	No	No	Yes	No	No	No	No	62	110	70	16	Normal	31.4	S1S2+.	B/LAE+	Soft	NFND	16	10	245	18
85	742167	65	Male	Non-ST elevation MI	No	No	No	No	No	Yes	No	86	100	70	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	13	7.2	26	16
86	580215	56	Male	Non-ST elevation MI	No	Yes	No	No	No	No	No	78	130	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13	10	260	28
87	751476	42	Male	ST Elevation MI	No	No	No	No	No	No	No	76	110	70	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	15	9	210	26
88	751371	63	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	86	110	70	16	Normal	29.5	S1S2+.	B/LAE+	Soft	NFND	10	8	260	19
89	751453	55	Female	Stable angina	No	No	No	No	No	No	No	80	130	80	18	Normal	34	S1S2+.	B/LAE+	Soft	NFND	14	10	190	18
90	751210	65	Male	Non-ST elevation MI	Yes	No	No	No	No	No	No	86	130	80	16	Normal	26.5	S1S2+.	B/LAE+	Soft	NFND	14	9.2	265	17
91	751948	52	Male	Non-ST elevation MI	No	No	No	No	No	No	No	82	110	70	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	14	8.6	210	19
92	739763	65	Male	Non-ST elevation MI	No	No	No	No	No	Yes	No	92	100	70	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	14	5	458	26
93	752310	65	Female	Non-ST elevation MI	No	Yes	No	No	No	No	No	80	150	90	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	11	6.2	324	28
94	752308	53	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	80	150	90	16	Normal	26.7	S1S2+.	B/LAE+	Soft	NFND	13	6	395	15
95	639405	61	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	98	140	90	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	9.7	6.4	247	29
96	752340	60	Male	ST Elevation MI	No	No	No	No	No	No	No	90	110	70	16	Normal	34	S1S2+.	B/LAE+	Soft	NFND	13.9	5.4	240	26
97	752648	36	Female	Non-ST elevation MI	No	No	No	No	No	No	No	82	130	80	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	16	5.4	198	14
98	752333	60	Female	ST Elevation MI	No	Yes	No	No	No	No	No	76	100	70	16	Normal	25	S1S2+.	B/LAE+	Soft	NFND	12	10	425	29
99	752308	52	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	90	100	70	18	Normal	29	S1S2+.	B/LAE+	Soft	NFND	16	10	270	22
100	750935	60	Male	ST Elevation MI	No	No	No	No	No	No	No	86	120	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13	7	210	24
101	752402	79	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	86	110	70	18	Normal	24	S1S2+.	B/LAE+	Soft	NFND	16	7	265	40
102	752332	53	Female	Non-ST elevation MI	No	Yes	No	No	No	No	No	100	130	70	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	11	7.6	421	12
103	752333	60	Male	ST Elevation MI	Yes	No	No	No	No	No	No	86	110	70	15	Normal	36	S1S2+.	B/LAE+	Soft	NFND	16	10	256	22
104	752570	71	Male	ST Elevation MI	Yes	No	No	No	No	No	No	80	120	80	18	Normal	24.5	S1S2+.	B/LAE+	Soft	NFND	11	12	425	27
105	749736	53	Male	ST Elevation MI	No	Yes	No	No	No	No	No	78	160	90	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	14.4	8	240	17
106	753294	62	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	78	120	80	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	12	7	195	38
107	752978	56	Female	Stable angina	Yes	No	No	No	No	No	No	86	100	80	18	Normal	31	S1S2+.	B/LAE+	Soft	NFND	16	7.14	368	18

108	752990	60	Female	ST Elevation MI	No	No	No	No	No	No	No	76	110	70	18	Normal	34	S1S2+.	B/LAE+	Soft	NFND	11	6	340	19
109	753453	52	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	90	140	90	22	Normal	32	S1S2+.	B/LAE+	Soft	NFND	11	7	180	16
110	752670	58	Female	Unstable angina	Yes	No	No	No	No	No	No	66	120	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	16	10	168	16
111	752606	75	Male	Unstable angina	Yes	No	No	No	No	Yes	No	54	120	90	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	16	12	220	35
112	739763	41	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	83	140	90	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	16.1	13	328	23
113	753948	59	Male	Stable angina	Yes	No	No	No	No	Yes	Yes	80	110	70	18	Normal	34	S1S2+.	B/LAE+	Soft	NFND	15	9	189	26
114	512913	71	Male	Stable angina	Yes	No	No	No	No	No	No	80	110	70	22	Normal	20	S1S2+.	B/LAE+	Soft	NFND	12	11	193	30
115	763680	47	Male	ST Elevation MI	Yes	No	No	No	No	No	No	84	100	80	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	14	20	552	29
116	761776	56	Male	Stable angina	No	No	No	No	No	Yes	No	88	110	70	18	Normal	24	S1S2+.	B/LAE+	Soft	NFND	11	6.65	293	23
117	761361	70	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	82	140	80	16	Normal	36	S1S2+.	B/LAE+	Soft	NFND	11	9.3	372	37
118	759637	70	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	82	110	60	16	Normal	34	S1S2+.	B/LAE+	Soft	NFND	13	7.78	276	9
119	759247	70	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	Yes	74	130	70	22	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13.2	8	230	32
120	721264	65	Male	Unstable angina	Yes	Yes	No	No	No	No	No	86	130	70	20	Normal	28.8	S1S2+.	B/LAE+	Soft	NFND	15	10	260	26
121	763194	67	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	56	120	80	18	Normal	31	S1S2+.	B/LAE+	Soft	NFND	10	9	416	33
122	760643	65	Female	Unstable angina	Yes	Yes	No	No	No	No	No	82	110	70	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	11	8	243	37
123	759623	60	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	90	110	70	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14	9	240	24
124	764054	53	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	65	140	90	16	Normal	29.5	S1S2+.	B/LAE+	Soft	NFND	17	12	183	28
125	763332	54	Male	Unstable angina	No	No	No	No	No	No	No	82	120	80	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	12	8	387	19
126	763235	70	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	68	130	90	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	10.9	14	320	31
127	763343	60	Female	ST Elevation MI	No	No	No	No	No	No	No	82	120	80	16	Normal	23.5	S1S2+.	B/LAE+	Soft	NFND	12.9	13	564	25
128	764203	60	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	80	100	60	20	Normal	22.5	S1S2+.	B/LAE+	Soft	NFND	14.6	11	336	34
129	764205	80	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	110	60	16	Normal	20.2	S1S2+.	B/LAE+	Soft	NFND	12.8	13.6	338	26
130	764214	65	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	80	110	70	21	Normal	22.5	S1S2+.	B/LAE+	Soft	NFND	13.3	20	353	23
131	763599	55	Male	ST Elevation MI	No	Yes	No	No	No	No	No	82	110	60	16	Normal	28.5	S1S2+.	B/LAE+	Soft	NFND	10.9	20	210	41
132	588557	71	Male	Stable angina	Yes	Yes	No	No	No	No	No	80	110	70	18	Normal	20.2	S1S2+.	B/LAE+	Soft	NFND	12.2	11	195	30
133	668473	75	Male	Unstable angina	No	No	No	No	No	Yes	No	88	130	90	22	Normal	22.5	S1S2+.	B/LAE+	Soft	NFND	12.2	7.68	198	31
134	667740	68	Male	ST Elevation MI	Yes	M	M	M	No	No	No	95	110	70	18	Normal	22	S1S2+.	B/LAE+	Soft	NFND	12.5	9.93	294	33
135	667752	42	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	90	150	100	20	Normal	29.2	S1S2+.	B/LAE+	Soft	NFND	15.2	16	215	20
136	668131	55	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	55	150	80	22	Normal	34	S1S2+.	B/LAE+	Soft	NFND	16	11.8	223	26
137	668129	52	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	77	104	60	18	Normal	24.8	S1S2+.	B/LAE+	Soft	NFND	18.4	5.37	112	32
138	665724	54	Male	ST Elevation MI	No	No	No	No	No	Yes	No	88	140	70	16	Normal	30	S1S2+.	B/LAE+	Soft	NFND	13	13.8	341	26
139	608199	59	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	89	140	90	18	Normal	29	S1S2+.	B/LAE+	Soft	NFND	16.2	16	217	19
140	668315	35	Male	Stable angina	No	Yes	No	No	No	Yes	No	57	110	70	18	Normal	23.5	S1S2+.	B/LAE+	Soft	NFND	18	10	323	33
141	612322	47	Male	ST Elevation MI	Yes	No	No	No	No	Yes	Yes	58	90	60	18	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	14.3	11.6	327	21
142	670516	50	Male	Non-ST elevation MI	No	No	No	No	No	Yes	Yes	66	110	70	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	7.9	9.46	298	18
143	670510	52	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	130	60	20	Normal	28.4	S1S2+.	B/LAE+	Soft	NFND	13	17	314	20
144	669842	66	Male	ST Elevation MI	No	No	No	No	No	No	No	90	140	90	22	Normal	30.2	S1S2+.	B/LAE+	Soft	NFND	14	8.74	212	33
145	670592	58	Male	ST Elevation MI	No	No	No	No	No	No	No	88	110	70	20	Normal	24.9	S1S2+.	B/LAE+	Soft	NFND	11.2	12	423	40

146	670634	59	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	83	150	90	16	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	15	12.23	271	18
147	671042	53	Male	ST Elevation MI	No	No	No	No	No	No	No	100	140	100	20	Normal	25.8	S1S2+.	B/LAE+	Soft	NFND	16.8	25.34	410	42
148	667842	65	Male	Stable angina	No	Yes	No	No	No	No	No	78	110	70	18	Normal	31	S1S2+.	B/LAE+	Soft	NFND	14.8	7.21	261	11
149	670510	52	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	130	60	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13.4	17.58	314	20
150	671474	55	Male	ST Elevation MI	No	No	No	No	No	No	No	88	110	70	16	Normal	34	S1S2+.	B/LAE+	Soft	NFND	14.8	8.43	214	19
151	670992	76	Male	ST Elevation MI	No	No	No	No	No	Yes	No	92	130	80	18	Normal	21.4	S1S2+.	B/LAE+	Soft	NFND	14.5	9.5	307	27
152	671009	61	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	90	110	70	22	Normal	27	S1S2+.	B/LAE+	Soft	NFND	13.2	15	83	28
153	662090	55	Female	Non-ST elevation MI	No	Yes	No	No	No	No	No	84	140	90	16	Normal	29.8	S1S2+.	B/LAE+	Soft	NFND	12	7	290	31
154	671835	55	Male	Stable angina	No	Yes	No	No	No	No	No	80	110	80	18	Normal	28.4	S1S2+.	B/LAE+	Soft	NFND	15	10	255	33
155	670665	54	Male	ST Elevation MI	No	No	No	Yes	No	Yes	No	98	140	90	14	Normal	22.8	S1S2+.	B/LAE+	Soft	NFND	13	11	534	23
156	671517	63	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	72	130	70	18	Normal	27.6	S1S2+.	B/LAE+	Soft	NFND	13.2	11	334	23
157	671895	66	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	98	150	90	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	18	25	419	14
158	671137	56	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	Yes	48	100	60	18	Normal	22.4	S1S2+.	B/LAE+	Soft	NFND	14	13	233	34
159	660645	80	Male	Stable angina	No	No	No	No	No	No	No	92	140	90	16	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	14	9	338	17
160	672497	40	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	90	160	90	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	15.6	10	295	16
161	673083	49	Male	ST Elevation MI	Yes	Yes	No	No	No	No	Yes	80	100	60	18	Normal	20.2	S1S2+.	B/LAE+	Soft	NFND	14.9	11	303	27
162	673123	39	Male	ST Elevation MI	Yes	No	No	No	No	Yes	Yes	88	138	88	16	Normal	26.8	S1S2+.	B/LAE+	Soft	NFND	18.2	9	263	10
163	670510	52	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	88	120	80	16	Normal	32.2	S1S2+.	B/LAE+	Soft	NFND	13	17	134	20
164	672756	53	Male	ST Elevation MI	No	Yes	No	No	No	No	No	92	110	80	18	Normal	33.2	S1S2+.	B/LAE+	Soft	NFND	12.6	7.2	286	14
165	671977	48	Male	ST Elevation MI	Yes	No	No	No	No	No	No	88	100	70	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	103	7.7	302	22
166	673094	57	Male	Unstable angina	No	No	No	No	No	Yes	Yes	100	120	80	20	Normal	21.8	S1S2+.	B/LAE+	Soft	NFND	11.2	12	423	34
167	672976	65	Female	ST Elevation MI	Yes	Yes	Yes	No	No	No	No	88	110	60	18	Normal	33	S1S2+.	B/LAE+	Soft	NFND	15	19	288	20
168	671765	45	Male	Stable angina	Yes	Yes	No	No	No	No	No	98	110	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13	9.5	128	17
169	672028	52	Male	ST Elevation MI	Yes	No	No	No	No	No	No	83	140	90	18	Normal	22.6	S1S2+.	B/LAE+	Soft	NFND	14	14	250	24
170	673216	75	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	80	150	100	22	Normal	29.2	S1S2+.	B/LAE+	Soft	NFND	15	11	269	32
171	670941	56	Female	Stable angina	Yes	Yes	Yes	No	No	No	No	80	110	70	18	Normal	35.2	S1S2+.	B/LAE+	Soft	NFND	10	13	384	24
172	672270	55	Female	Stable angina	Yes	Yes	No	No	No	No	No	90	100	60	16	Normal	22.6	S1S2+.	B/LAE+	Soft	NFND	13	13	387	21
173	673686	59	Male	Non-ST elevation MI	No	No	No	No	No	Yes	Yes	80	100	60	20	Normal	26.2	S1S2+.	B/LAE+	Soft	NFND	14	12	198	32
174	672744	52	Male	Stable angina	No	Yes	No	No	No	No	No	83	140	90	18	Normal	29.2	S1S2+.	B/LAE+	Soft	NFND	14	11	229	20
175	673089	48	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	Yes	80	120	80	16	Normal	24.8	S1S2+.	B/LAE+	Soft	NFND	15	16	259	31
176	673470	47	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	80	110	70	18	Normal	27.4	S1S2+.	B/LAE+	Soft	NFND	15.7	9.99	236	14
177	673710	65	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	40	220	80	22	Normal	31.2	S1S2+.	B/LAE+	Soft	NFND	9	11	248	41
178	671919	40	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	128	110	70	20	Normal	20.8	S1S2+.	B/LAE+	Soft	NFND	13.9	10	203	21
179	672821	43	Male	ST Elevation MI	No	No	No	No	No	No	No	48	120	80	18	Normal	24.5	S1S2+.	B/LAE+	Soft	NFND	12	9	156	25
180	675580	72	Male	Non-ST elevation MI	Yes	No	No	No	No	No	No	80	120	80	20	Normal	28.4	S1S2+.	B/LAE+	Soft	NFND	14	9.6	163	42
181	674926	62	Male	ST Elevation MI	No	No	No	No	No	No	No	74	100	60	16	Normal	24.1	S1S2+.	B/LAE+	Soft	NFND	13.5	10	264	33
182	675753	42	Male	ST Elevation MI	No	No	No	No	No	Yes	No	78	110	80	18	Normal	25.8	S1S2+.	B/LAE+	Soft	NFND	14	9	260	27
183	675721	31	Male	ST Elevation MI	No	No	No	No	No	No	Yes	80	110	80	16	Normal	23	S1S2+.	B/LAE+	Soft	NFND	15.3	10	266	40

184	675393	39	Male	ST Elevation MI	Yes	No	No	No	No	No	No	80	110	90	18	Normal	32.2	S1S2+.	B/LAE+	Soft	NFND	13.9	17.75	332	43
185	675309	42	Male	ST Elevation MI	No	No	No	No	No	Yes	No	98	130	90	18	Normal	38.24	S1S2+.	B/LAE+	Soft	NFND	17	14	227	19
186	675744	79	Male	ST Elevation MI	No	No	No	No	No	No	No	89	140	90	20	Normal	22.4	S1S2+.	B/LAE+	Soft	NFND	15	15	234	25
187	562144	64	Female	Unstable angina	Yes	Yes	No	No	No	No	No	80	130	80	22	Normal	28.4	S1S2+.	B/LAE+	Soft	NFND	15	5	320	30
188	676206	73	Female	Non-ST elevation MI	No	No	No	No	No	No	No	72	120	70	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	12	5	120	26
189	674993	44	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	82	100	60	18	Normal	22.6	S1S2+.	B/LAE+	Soft	NFND	15	13	227	24
190	675926	63	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	80	110	60	20	Normal	28	S1S2+.	B/LAE+	Soft	NFND	12	14	245	22
191	676846	50	Male	Stable angina	Yes	No	No	No	No	No	No	82	120	80	16	Normal	21	S1S2+.	B/LAE+	Soft	NFND	13	12	358	13
192	673690	67	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	No	82	140	90	18	Normal	24.7	S1S2+.	B/LAE+	Soft	NFND	10.5	5.52	193	50
193	673995	70	Male	Stable angina	No	No	No	No	No	No	No	70	100	70	16	Normal	21.4	S1S2+.	B/LAE+	Soft	NFND	12	10	236	30
194	673043	62	Male	ST Elevation MI	No	No	No	No	No	No	No	80	110	70	16	Normal	25.8	S1S2+.	B/LAE+	Soft	NFND	15	7	264	28
195	700133	75	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	84	122	84	16	Normal	29.5	S1S2+.	B/LAE+	Soft	NFND	11	15	258	21
196	676749	84	Female	ST Elevation MI	No	No	No	No	No	No	No	80	110	70	16	Normal	33	S1S2+.	B/LAE+	Soft	NFND	11.2	16	302	28
197	676737	63	Male	Stable angina	No	No	No	No	No	No	No	80	120	90	22	Normal	22.86	S1S2+.	B/LAE+	Soft	NFND	17	8	266	24
198	658818	70	Male	Stable angina	Yes	No	No	No	No	Yes	Yes	90	110	70	20	Normal	23.5	S1S2+.	B/LAE+	Soft	NFND	13	12	297	23
199	676791	65	Male	ST Elevation MI	No	No	No	No	No	Yes	No	82	120	70	18	Normal	31.5	S1S2+.	B/LAE+	Soft	NFND	13	10	278	25
200	675985	65	Female	Non-ST elevation MI	No	No	No	No	No	No	No	70	140	70	16	Normal	31.2	S1S2+.	B/LAE+	Soft	NFND	13.3	7.6	388	31
201	733795	65	Male	ST Elevation MI	Yes	No	No	No	No	No	No	88	110	80	18	Normal	30	S1S2+.	B/LAE+	Soft	NFND	15.1	10.7	107	20
202	754469	25	Male	ST Elevation MI	No	No	No	No	Yes	No	No	82	130	80	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	14	6	280	22
203	754768	69	Male	ST Elevation MI	No	No	No	No	No	No	No	82	110	70	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	11	8.07	190	25
204	755264	55	Male	ST Elevation MI	No	No	No	No	No	No	No	80	120	80	16	Normal	30	S1S2+.	B/LAE+	Soft	NFND	16	11	250	21
205	755675	48	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	70	110	70	16	Normal	25	S1S2+.	B/LAE+	Soft	NFND	16	10	150	22
206	754928	58	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	80	110	70	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	15	10	150	16
207	754865	82	Male	Stable angina	No	Yes	No	No	No	Yes	No	80	110	70	14	Normal	26	S1S2+.	B/LAE+	Soft	NFND	14	8.2	250	15
208	754881	56	Female	ST Elevation MI	Yes	No	No	No	No	No	No	72	110	70	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	11	8.6	240	25
209	755566	64	Female	ST Elevation MI	Yes	No	No	No	No	No	No	80	120	80	16	Normal	36	S1S2+.	B/LAE+	Soft	NFND	11	8.2	300	25
210	675989	65	Female	Non-ST elevation MI	Yes	No	No	No	No	No	No	70	130	70	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	10	9	158	20
211	755759	45	Male	ST Elevation MI	Yes	No	No	No	No	No	No	86	120	70	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	14.7	9.5	229	22
212	754490	70	Male	Non-ST elevation MI	No	No	No	No	No	No	No	76	120	80	22	Normal	30	S1S2+.	B/LAE+	Soft	NFND	14	6.2	156	37
213	755719	54	Male	ST Elevation MI	No	No	No	No	No	No	No	82	120	80	16	Normal	33	S1S2+.	B/LAE+	Soft	NFND	12	7.4	206	27
214	752930	38	Male	ST Elevation MI	Yes	No	No	No	No	Yes	No	80	100	50	18	Normal	29	S1S2+.	B/LAE+	Soft	NFND	14	9.2	180	40
215	750868	74	Male	ST Elevation MI	Yes	No	No	No	No	No	No	80	120	80	18	Normal	23	S1S2+.	B/LAE+	Soft	NFND	16	9.6	180	15
216	755729	43	Male	ST Elevation MI	Yes	No	No	No	No	No	No	72	130	80	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	12	9.2	186	20
217	755311	46	Male	Unstable angina	Yes	No	No	No	No	No	No	78	120	80	16	Normal	30	S1S2+.	B/LAE+	Soft	NFND	18.5	8.2	160	16
218	755572	65	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	110	70	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	15	8.2	183	16
219	754928	62	Male	ST Elevation MI	Yes	No	No	No	No	No	No	88	110	70	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	14.9	9	148	27
220	756284	53	Male	ST Elevation MI	No	Yes	No	No	No	No	No	82	110	70	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	16	12	186	20
221	752945	54	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	74	200	100	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	15.3	8.9	168	26

222	737527	26	Male	Unstable angina	No	Yes	No	No	No	No	No	80	120	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	15.2	12	180	18
223	756199	58	Male	ST Elevation MI	No	Yes	No	No	No	No	No	60	110	70	16	Normal	25	S1S2+.	B/LAE+	Soft	NFND	16	12	150	32
224	749736	85	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	110	90	60	22	Normal	28	S1S2+.	B/LAE+	Soft	NFND	16.2	14	148	35
225	750521	72	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	86	110	70	18	Normal	30	S1S2+.	B/LAE+	Soft	NFND	14	12.1	168	52
226	754469	69	Male	Stable angina	Yes	Yes	No	No	No	No	No	72	110	70	18	Normal	29	S1S2+.	B/LAE+	Soft	NFND	16	10	158	20
227	756720	68	Male	Non-ST elevation MI	Yes	No	No	No	No	No	No	76	110	70	16	Normal	31.5	S1S2+.	B/LAE+	Soft	NFND	14.2	8.96	189	27
228	730807	70	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	No	72	120	80	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	14	12	168	32
229	736106	53	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	56	110	70	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	14	9.2	188	40
230	736535	65	Male	Unstable angina	Yes	Yes	No	No	No	No	No	60	110	70	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	15.4	7.2	150	41
231	736565	56	Male	Unstable angina	Yes	No	No	No	No	No	No	60	110	70	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	15	4.6	182	24
232	735592	60	Male	ST Elevation MI	No	No	No	No	No	No	No	96	110	70	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14	7.42	160	47
233	734862	52	Male	Unstable angina	Yes	Yes	No	No	No	No	No	68	120	80	16	Normal	30	S1S2+.	B/LAE+	Soft	NFND	14	8.2	220	41
234	735686	60	Male	Non-ST elevation MI	No	No	No	No	No	No	No	72	110	70	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	15.2	8.4	244	20
235	736935	45	Male	Non-ST elevation MI	Yes	No	No	No	No	No	No	96	110	70	16	Normal	36	S1S2+.	B/LAE+	Soft	NFND	8.69	12	150	41
236	737155	42	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	110	70	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	15	8.64	196	12
237	736706	54	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	86	110	70	14	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	16	8.6	156	21
238	737581	40	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	80	120	80	16	Normal	27.6	S1S2+.	B/LAE+	Soft	NFND	16	8.16	120	21
239	737526	58	Male	Unstable angina	Yes	Yes	No	No	No	No	No	80	120	80	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	16	12.1	180	25
240	737527	60	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	80	120	80	16	Normal	26.5	S1S2+.	B/LAE+	Soft	NFND	12	10	148	26
241	738276	65	Male	ST Elevation MI	Yes	No	No	No	No	No	No	80	110	70	16	Normal	27.5	S1S2+.	B/LAE+	Soft	NFND	14.5	12	186	23
242	737936	46	Male	Non-ST elevation MI	No	Yes	No	No	No	No	No	80	120	80	10	Normal	25.6	S1S2+.	B/LAE+	Soft	NFND	16	8.69	186	29
243	737896	54	Male	ST Elevation MI	No	Yes	No	No	No	No	No	90	180	80	16	Normal	24.5	S1S2+.	B/LAE+	Soft	NFND	10.2	9.2	196	21
244	737806	62	Male	Non-ST elevation MI	Yes	No	No	No	No	No	No	86	110	70	16	Normal	30.4	S1S2+.	B/LAE+	Soft	NFND	14	8.2	186	16
245	738001	64	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	90	110	70	16	Normal	32.5	S1S2+.	B/LAE+	Soft	NFND	79	8.96	250	21
246	738511	60	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	70	120	80	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	14	8.16	188	28
247	739391	52	Male	ST Elevation MI	No	Yes	No	No	No	No	No	60	120	80	16	Normal	23.5	S1S2+.	B/LAE+	Soft	NFND	14.6	3.6	216	25
248	733370	60	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	No	86	120	80	16	Normal	25.6	S1S2+.	B/LAE+	Soft	NFND	18	8.9	196	35
249	739388	50	Male	ST Elevation MI	No	No	No	No	No	No	No	80	110	70	18	Normal	27.5	S1S2+.	B/LAE+	Soft	NFND	14	7.5	128	27
250	605124	39	Male	Non-ST elevation MI	No	No	No	No	No	No	No	72	120	80	16	Normal	25.4	S1S2+.	B/LAE+	Soft	NFND	16	8.2	182	22
251	605199	52	Male	ST Elevation MI	No	No	No	No	No	Yes	No	44	100	60	20	Normal	22.5	S1S2+.	B/LAE+	Soft	NFND	16.4	8.2	196	18
252	605134	67	Male	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	62	115	70	16	Normal	23.6	S1S2+.	B/LAE+	Soft	NFND	12.8	9.64	252	50
253	604973	42	Male	ST Elevation MI	No	Yes	No	No	No	No	No	80	120	80	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	14.5	8.6	322	12
254	647311	49	Female	Non-ST elevation MI	No	No	No	No	No	No	No	82	122	70	16	Normal	32.4	S1S2+.	B/LAE+	Soft	NFND	13	8.2	180	13
255	677695	76	Male	ST Elevation MI	Yes	No	No	No	No	No	No	88	160	100	16	Normal	30.5	S1S2+.	B/LAE+	Soft	NFND	15.8	13.13	283	31
256	678033	56	Male	ST Elevation MI	No	Yes	No	No	No	No	No	80	130	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13.3	9.71	275	38
257	678118	60	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	84	110	70	18	Normal	27.4	S1S2+.	B/LAE+	Soft	NFND	15	10.35	267	17
258	677707	70	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	55	60	50	16	Normal	26.3	S1S2+.	B/LAE+	Soft	NFND	14.9	17.43	310	36
259	673216	75	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	80	110	90	20	Normal	23.6	S1S2+.	B/LAE+	Soft	NFND	14	16.17	271	24

260	678175	50	Male	ST Elevation MI	No	Yes	No	No	No	No	No	78	120	100	18	Normal	25.6	S1S2+.	B/LAE+	Soft	NFND	10.3	13.68	218	37
261	678997	64	Male	Stable angina	Yes	No	No	No	No	No	No	70	120	70	16	Normal	32.5	S1S2+.	B/LAE+	Soft	NFND	12.8	6.88	192	8
262	678909	60	Male	ST Elevation MI	Yes	No	No	No	No	Yes	No	84	130	80	18	Normal	24	S1S2+.	B/LAE+	Soft	NFND	14.4	15.5	200	27
263	678566	60	Male	ST Elevation MI	Yes	No	No	No	No	Yes	No	67	120	70	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	13.3	15.19	152	67
264	678552	44	Male	ST Elevation MI	No	No	No	No	No	Yes	No	56	100	60	22	Normal	26	S1S2+.	B/LAE+	Soft	NFND	12.3	13.96	289	20
265	679441	59	Male	Unstable angina	Yes	No	No	No	No	Yes	Yes	83	140	90	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14.3	8.66	292	20
266	679071	60	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	42	60	40	26	Normal	30	S1S2+.	B/LAE+	Soft	NFND	13.8	16.16	319	17
267	678196	64	Male	Stable angina	Yes	No	No	No	No	No	No	70	120	70	16	Normal	32.5	S1S2+.	B/LAE+	Soft	NFND	12.8	6.88	192	8
268	677602	61	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	80	90	70	24	Normal	32	S1S2+.	B/LAE+	Soft	NFND	9.8	6.9	230	33
269	665613	70	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	84	110	70	16	Normal	27	S1S2+.	B/LAE+	Soft	NFND	9.4	8	387	44
270	679503	61	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	82	160	90	16	Normal	25	S1S2+.	B/LAE+	Soft	NFND	13.8	7.51	231	23
271	679660	68	Male	ST Elevation MI	Yes	No	No	No	No	Yes	Yes	80	110	70	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	13.6	11.98	319	37
272	680628	78	Male	Unstable angina	Yes	No	No	No	No	No	No	88	110	70	16	Normal	22	S1S2+.	B/LAE+	Soft	NFND	14.3	11.54	217	17
273	680208	68	Male	ST Elevation MI	Yes	No	No	No	No	No	No	88	110	80	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	15	19.37	134	4.3
274	680311	55	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	108	170	100	18	Normal	25	S1S2+.	B/LAE+	Soft	NFND	13.1	15.34	304	42
275	681091	48	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	80	110	70	18	Normal	25.5	S1S2+.	B/LAE+	Soft	NFND	10.3	9.94	357	19
276	680306	45	Male	Non-ST elevation MI	Yes	No	No	No	No	Yes	Yes	92	160	100	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	12.4	16.53	180	40
277	680669	65	Male	ST Elevation MI	Yes	No	No	No	No	No	No	88	110	70	18	Normal	25.8	S1S2+.	B/LAE+	Soft	NFND	9.9	11.1	236	34
278	680705	58	Male	ST Elevation MI	Yes	No	No	No	No	No	No	98	130	90	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	14.3	15.1	361	29
279	681203	60	Male	ST Elevation MI	Yes	No	No	No	No	Yes	Yes	86	110	70	22	Normal	26	S1S2+.	B/LAE+	Soft	NFND	15.6	12.36	277	56
280	681389	50	Male	ST Elevation MI	Yes	No	No	No	No	No	No	86	140	80	16	Normal	33.5	S1S2+.	B/LAE+	Soft	NFND	12.7	14.5	315	32
281	681702	58	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	66	120	60	20	Normal	29.3	S1S2+.	B/LAE+	Soft	NFND	14.8	10.84	233	38
282	651861	67	Male	Unstable angina	Yes	Yes	No	No	No	No	No	84	140	90	16	Normal	23.4	S1S2+.	B/LAE+	Soft	NFND	9.7	7	285	40
283	651734	66	Male	ST Elevation MI	No	No	No	No	No	Yes	No	83	140	90	18	Normal	26	S1S2+.	B/LAE+	Soft	NFND	13.9	9.37	283	26
284	681974	65	Female	Unstable angina	Yes	Yes	No	No	No	No	No	80	110	70	16	Normal	33.6	S1S2+.	B/LAE+	Soft	NFND	11.6	9.83	322	29
285	681729	50	Male	Unstable angina	No	Yes	No	No	No	Yes	No	73	180	100	18	Normal	30	S1S2+.	B/LAE+	Soft	NFND	15.8	8.89	213	28
286	681543	79	Male	Unstable angina	Yes	Yes	No	Yes	No	Yes	Yes	80	190	70	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	10	17.67	442	23
287	681187	39	Male	ST Elevation MI	No	No	No	No	No	No	Yes	88	110	70	16	Normal	24.6	S1S2+.	B/LAE+	Soft	NFND	10.9	9.48	226	16
288	681300	65	Male	Stable angina	Yes	Yes	No	No	No	No	No	86	120	90	18	Normal	23.6	S1S2+.	B/LAE+	Soft	NFND	12.9	7.31	224	13
289	681622	65	Male	Non-ST elevation MI	No	No	No	No	No	No	No	94	150	80	16	Normal	29.4	S1S2+.	B/LAE+	Soft	NFND	9.3	8.75	356	30
290	682146	55	Female	Stable angina	Yes	Yes	No	No	No	No	No	80	110	70	22	Normal	26.5	S1S2+.	B/LAE+	Soft	NFND	13.2	7.89	393	26
291	668650	40	Male	Unstable angina	Yes	No	No	No	No	Yes	Yes	80	110	70	20	Normal	28	S1S2+.	B/LAE+	Soft	NFND	18.2	9.15	200	10
292	682577	58	Male	Unstable angina	Yes	Yes	No	No	No	No	No	88	120	70	22	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	14	4.95	164	22
293	682977	55	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	98	110	70	18	Normal	32.6	S1S2+.	B/LAE+	Soft	NFND	14.4	17.29	266	25
294	683023	78	Male	Non-ST elevation MI	Yes	Yes	No	No	No	Yes	No	82	120	80	16	Normal	33.6	S1S2+.	B/LAE+	Soft	NFND	14.6	9.28	176	22
295	682598	45	Male	ST Elevation MI	No	No	No	No	No	Yes	No	88	110	70	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14.4	11.33	189	28
296	683316	50	Male	Unstable angina	Yes	Yes	No	No	No	No	No	80	110	70	18	Normal	25	S1S2+.	B/LAE+	Soft	NFND	15.9	16.48	334	27
297	682429	75	Male	Stable angina	Yes	Yes	No	No	No	Yes	Yes	78	120	80	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	12.5	7.43	173	32

298	683341	66	Male	Unstable angina	Yes	No	No	No	No	Yes	No	98	140	90	20	Normal	27	S1S2+.	B/LAE+	Soft	NFND	16.9	17.1	252	35
299	682949	40	Male	Non-ST elevation MI	No	No	No	No	No	Yes	No	68	110	70	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	11.2	14.28	295	18
300	677306	67	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	Yes	57	110	60	26	Normal	29	S1S2+.	B/LAE+	Soft	NFND	7.2	18.7	153	22
301	678114	68	Female	Non-ST elevation MI	No	No	No	No	No	No	No	128	110	70	16	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	12.2	5	272	23
302	683383	68	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	78	160	100	16	Normal	36.2	S1S2+.	B/LAE+	Soft	NFND	12	10	269	30
303	680690	46	Male	Unstable angina	No	No	No	No	No	Yes	Yes	82	130	80	16	Normal	23.2	S1S2+.	B/LAE+	Soft	NFND	16	10	245	22
304	682147	52	Male	ST Elevation MI	Yes	No	No	No	No	Yes	No	90	120	80	18	Normal	22.6	S1S2+.	B/LAE+	Soft	NFND	17	20	260	31
305	683718	80	Female	ST Elevation MI	Yes	No	No	No	No	No	No	80	120	80	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	11	16	197	35
306	683290	39	Male	Unstable angina	No	No	No	No	No	Yes	No	72	120	80	16	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	13	8	172	30
307	684251	60	Female	ST Elevation MI	No	No	No	No	No	No	No	88	110	70	18	Normal	26	S1S2+.	B/LAE+	Soft	NFND	10	8	265	24
308	684699	60	Male	ST Elevation MI	No	No	No	No	No	Yes	No	62	110	70	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	15	20	219	17
309	684123	61	Female	Stable angina	Yes	Yes	Yes	No	No	No	No	80	140	90	18	Normal	32.14	S1S2+.	B/LAE+	Soft	NFND	12	13	335	40
310	678658	78	Female	Unstable angina	Yes	Yes	No	No	No	No	No	62	120	80	16	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	11	8	271	27
311	683754	48	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	62	130	80	16	Normal	31	S1S2+.	B/LAE+	Soft	NFND	9.2	9	148	23
312	685082	60	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	88	120	80	18	Normal	26.4	S1S2+.	B/LAE+	Soft	NFND	9.6	12	240	23
313	683786	60	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	No	92	120	80	16	Normal	28.4	S1S2+.	B/LAE+	Soft	NFND	14	11	187	42
314	685496	56	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	82	120	80	18	Normal	18.6	S1S2+.	B/LAE+	Soft	NFND	12	9	436	49
315	683794	75	Male	Non-ST elevation MI	No	Yes	No	No	No	No	No	78	120	80	16	Normal	28.9	S1S2+.	B/LAE+	Soft	NFND	13.4	5	222	36
316	685451	75	Male	Unstable angina	Yes	Yes	No	No	No	No	No	88	140	90	18	Normal	22.6	S1S2+.	B/LAE+	Soft	NFND	11	8	217	22
317	684435	65	Male	ST Elevation MI	No	No	No	No	No	No	No	82	90	70	16	Normal	32.4	S1S2+.	B/LAE+	Soft	NFND	14	10	486	44
318	685941	48	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	88	150	90	18	Normal	29.4	S1S2+.	B/LAE+	Soft	NFND	15.7	16.8	307	1
319	685962	75	Male	Unstable angina	No	No	No	No	No	No	No	68	160	80	22	Normal	22	S1S2+.	B/LAE+	Soft	NFND	12	7	157	45
320	685949	60	Male	Non-ST elevation MI	Yes	No	No	No	No	No	No	88	140	90	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	11	12	309	18
321	686761	58	Male	Stable angina	No	Yes	No	No	No	No	No	80	120	80	18	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	15	5	180	19
322	686234	85	Female	Unstable angina	Yes	Yes	No	No	No	No	No	92	110	80	16	Normal	20	S1S2+.	B/LAE+	Soft	NFND	11	13	341	36
323	686425	80	Male	ST Elevation MI	Yes	No	No	No	No	No	No	82	140	90	18	Normal	24	S1S2+.	B/LAE+	Soft	NFND	13.8	12	225	25
324	678162	60	Male	Stable angina	No	No	No	No	No	Yes	No	82	110	70	16	Normal	22	S1S2+.	B/LAE+	Soft	NFND	14.5	10	370	36
325	686989	46	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	130	130	90	18	Normal	23	S1S2+.	B/LAE+	Soft	NFND	11	12	337	26
326	687327	65	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	Yes	82	110	70	16	Normal	26	S1S2+.	B/LAE+	Soft	NFND	15.4	13.35	192	23
327	687374	62	Male	Unstable angina	No	No	No	No	No	Yes	No	107	140	90	18	Normal	34.6	S1S2+.	B/LAE+	Soft	NFND	15.4	11.16	298	37
328	687279	62	Male	ST Elevation MI	No	Yes	No	No	No	No	No	82	120	80	16	Normal	21	S1S2+.	B/LAE+	Soft	NFND	14.2	12.13	310	28
329	686909	50	Male	Stable angina	Yes	Yes	No	No	No	No	No	88	110	70	16	Normal	24.5	S1S2+.	B/LAE+	Soft	NFND	14.9	7.39	178	29
330	645602	66	Male	Stable angina	No	No	No	Yes	No	No	No	82	110	70	16	Normal	36	S1S2+.	B/LAE+	Soft	NFND	13.5	10.7	228	49
331	687347	65	Male	ST Elevation MI	No	Yes	No	No	No	Yes	Yes	82	110	70	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	12.1	18.34	374	42
332	505421	41	Male	Non-ST elevation MI	No	No	No	No	No	Yes	Yes	102	120	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	14.2	9.52	283	32
333	633132	70	Male	Unstable angina	Yes	Yes	No	No	No	No	No	82	110	70	16	Normal	25	S1S2+.	B/LAE+	Soft	NFND	12.1	5.76	190	30
334	687929	58	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	80	120	80	16	Normal	22.5	S1S2+.	B/LAE+	Soft	NFND	14.5	11.31	208	37
335	688033	59	Female	ST Elevation MI	Yes	No	No	No	No	No	No	98	130	90	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	13.4	15.96	247	31

336	687894	55	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	82	120	80	16	Normal	31.5	S1S2+.	B/LAE+	Soft	NFND	14.8	14.05	233	34
337	688931	75	Female	ST Elevation MI	No	No	No	No	No	No	No	62	130	80	16	Normal	23.8	S1S2+.	B/LAE+	Soft	NFND	11.5	16.21	443	20
338	688149	75	Female	ST Elevation MI	No	Yes	No	No	No	No	No	82	110	70	18	Normal	25	S1S2+.	B/LAE+	Soft	NFND	11.4	9.36	253	13
339	688783	76	Female	ST Elevation MI	No	No	No	No	No	No	No	83	140	90	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	10.3	18.37	290	13
340	689225	47	Female	Unstable angina	No	Yes	No	No	No	No	No	67	120	80	14	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	11.4	11.91	396	11
341	689355	65	Male	ST Elevation MI	No	Yes	No	No	No	No	No	86	220	80	16	Normal	22.4	S1S2+.	B/LAE+	Soft	NFND	13.1	6.49	144	44
342	689746	72	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	62	140	90	16	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	14.6	12.31	248	44
343	688353	63	Male	ST Elevation MI	Yes	Yes	No	Yes	No	No	No	64	130	80	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	16.7	11.26	278	32
344	689911	71	Male	ST Elevation MI	No	No	No	No	No	Yes	No	63	140	90	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	16.6	12.29	187	34
345	690433	48	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	72	130	80	16	Normal	24.5	S1S2+.	B/LAE+	Soft	NFND	14.5	15.13	299	35
346	690101	51	Male	ST Elevation MI	No	No	No	No	No	Yes	No	62	120	80	16	Normal	22.9	S1S2+.	B/LAE+	Soft	NFND	13.9	20.65	288	40
347	689460	45	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	86	170	90	16	Normal	32	S1S2+.	B/LAE+	Soft	NFND	13.8	15.64	417	23
348	689925	76	Male	Unstable angina	Yes	Yes	No	No	No	No	No	170	120	80	18	Normal	28.7	S1S2+.	B/LAE+	Soft	NFND	14.8	24.01	210	62
349	688373	60	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	98	130	90	16	Normal	28.6	S1S2+.	B/LAE+	Soft	NFND	11.5	6.16	277	17
350	690907	49	Male	ST Elevation MI	No	No	No	No	No	No	No	88	120	80	16	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	14.5	15.95	297	26
351	691047	59	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	140	70	16	Normal	24.6	S1S2+.	B/LAE+	Soft	NFND	10.9	23	374	39
352	691715	67	Male	Anterior wall MI	No	No	No	No	No	No	No	80	120	80	16	Normal	21.5	S1S2+.	B/LAE+	Soft	NFND	14.7	6.45	157	28
353	690046	35	Male	ST Elevation MI	No	No	No	No	No	No	Yes	82	110	70	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	16	10	325	32
354	690431	62	Male	ST Elevation MI	No	Yes	No	No	No	Yes	No	62	130	90	18	Normal	22.4	S1S2+.	B/LAE+	Soft	NFND	13.5	9.7	316	35
355	691346	55	Male	ST Elevation MI	No	No	No	No	No	No	No	98	210	130	16	Normal	26.2	S1S2+.	B/LAE+	Soft	NFND	11	11	210	37
356	692217	70	Male	ST Elevation MI	No	No	No	No	No	Yes	No	55	130	70	16	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	11.6	18	303	24
357	692207	78	Male	ST Elevation MI	No	No	No	No	No	No	No	52	120	80	18	Normal	30.5	S1S2+.	B/LAE+	Soft	NFND	13.5	12	351	31
358	692243	62	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	140	90	16	Normal	28.5	S1S2+.	B/LAE+	Soft	NFND	14.6	9.1	223	26
359	693188	63	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	62	130	90	16	Normal	28.5	S1S2+.	B/LAE+	Soft	NFND	13.6	9	287	19
360	691809	75	Female	ST Elevation MI	Yes	No	No	No	No	No	No	82	90	60	18	Normal	32.6	S1S2+.	B/LAE+	Soft	NFND	12.3	17	165	25
361	689796	55	Female	Unstable angina	No	Yes	No	No	No	No	No	80	110	90	18	Normal	23	S1S2+.	B/LAE+	Soft	NFND	12.3	12	364	23
362	687890	42	Male	ST Elevation MI	No	No	No	No	No	Yes	No	98	110	70	18	Normal	22.5	S1S2+.	B/LAE+	Soft	NFND	15	16	344	33
363	693430	74	Male	ST Elevation MI	No	Yes	No	No	No	No	No	82	90	70	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	12.5	10	167	31
364	693715	45	Male	ST Elevation MI	No	No	No	No	No	Yes	No	86	110	60	16	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	13.9	10.3	224	21
365	692195	54	Female	Unstable angina	Yes	Yes	No	No	No	No	No	90	120	80	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	8.9	12	403	26
366	693606	58	Male	Unstable angina	No	No	No	No	No	No	No	86	90	70	16	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	15	10	200	32
367	694618	43	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	86	110	70	18	Normal	20.5	S1S2+.	B/LAE+	Soft	NFND	14.9	16	316	28
368	694632	64	Female	Non-ST elevation MI	Yes	Yes	No	No	No	No	No	88	140	90	16	Normal	26.2	S1S2+.	B/LAE+	Soft	NFND	11.6	18	534	42
369	693364	51	Male	Stable angina	No	Yes	No	No	No	No	No	90	150	90	20	Normal	24.2	S1S2+.	B/LAE+	Soft	NFND	13.9	10	364	17
370	694191	64	Male	ST Elevation MI	No	No	No	No	No	No	No	90	110	70	18	Normal	23.2	S1S2+.	B/LAE+	Soft	NFND	13.2	7.14	201	39
371	694299	45	Female	ST Elevation MI	Yes	Yes	No	No	No	No	No	82	180	100	22	Normal	30.5	S1S2+.	B/LAE+	Soft	NFND	11.4	9.44	263	22
372	695095	45	Male	ST Elevation MI	No	Yes	No	No	No	No	Yes	90	130	90	16	Normal	36	S1S2+.	B/LAE+	Soft	NFND	15	14	194	25
373	694637	50	Male	ST Elevation MI	Yes	No	No	No	No	Yes	Yes	76	90	70	18	Normal	24	S1S2+.	B/LAE+	Soft	NFND	15	20	316	23

374	683322	68	Male	Stable angina	Yes	Yes	No	No	No	No	Yes	90	180	150	20	Normal	32	S1S2+.	B/LAE+	Soft	NFND	9.7	12	562	34
375	694738	53	Male	ST Elevation MI	No	No	No	No	No	No	No	86	120	90	16	Normal	34	S1S2+.	B/LAE+	Soft	NFND	16	6	239	24
376	694496	68	Female	Unstable angina	Yes	Yes	No	No	No	No	No	88	130	80	16	Normal	29	S1S2+.	B/LAE+	Soft	NFND	11	11	231	25
377	696247	47	Male	Unstable angina	Yes	Yes	No	No	No	Yes	No	82	130	80	18	Normal	24	S1S2+.	B/LAE+	Soft	NFND	14	6	170	25
378	695213	65	Female	Non-ST elevation MI	No	No	No	No	No	No	No	84	170	110	14	Normal	24	S1S2+.	B/LAE+	Soft	NFND	12	7	236	26
379	690789	66	Male	Unstable angina	No	No	No	No	No	Yes	Yes	86	122	80	22	Normal	32	S1S2+.	B/LAE+	Soft	NFND	11	7	365	12
380	695932	50	Male	ST Elevation MI	No	Yes	No	No	No	No	No	55	160	90	18	Normal	36	S1S2+.	B/LAE+	Soft	NFND	14	12	233	24
381	696001	71	Male	Non-ST elevation MI	No	No	No	No	No	Yes	No	82	110	70	16	Normal	24.5	S1S2+.	B/LAE+	Soft	NFND	15.5	5.12	254	23
382	696423	55	Male	ST Elevation MI	No	No	No	No	No	Yes	No	72	110	70	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	13.8	18	442	22
383	696332	52	Male	ST Elevation MI	No	Yes	Yes	No	No	No	No	88	120	80	18	Normal	28.2	S1S2+.	B/LAE+	Soft	NFND	12	12	351	41
384	696011	55	Female	Non-ST elevation MI	Yes	No	No	No	No	No	No	83	140	90	16	Normal	31	S1S2+.	B/LAE+	Soft	NFND	13	8	333	16
385	696695	60	Female	Stable angina	No	Yes	No	No	No	No	No	82	110	70	18	Normal	34	S1S2+.	B/LAE+	Soft	NFND	10	14	521	4
386	697073	69	Male	ST Elevation MI	Yes	Yes	No	No	No	Yes	No	88	13	90	18	Normal	32	S1S2+.	B/LAE+	Soft	NFND	12	12	279	37
387	696794	65	Male	ST Elevation MI	No	No	No	No	No	No	No	72	130	70	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	15	18	182	28
388	696433	69	Male	Unstable angina	No	Yes	No	No	No	No	No	80	15	90	18	Normal	27	S1S2+.	B/LAE+	Soft	NFND	16	9	198	23
389	696781	44	Male	ST Elevation MI	Yes	No	No	No	No	No	No	100	120	80	20	Normal	24	S1S2+.	B/LAE+	Soft	NFND	13	11	194	31
390	696357	43	Male	ST Elevation MI	Yes	No	No	No	No	Yes	Yes	80	110	70	18	Normal	34	S1S2+.	B/LAE+	Soft	NFND	11	9	379	35
391	697108	75	Male	Stable angina	No	No	No	No	No	Yes	No	86	120	80	16	Normal	20	S1S2+.	B/LAE+	Soft	NFND	14	7.6	261	33
392	697453	47	Male	Stable angina	No	Yes	No	No	No	No	No	80	130	80	22	Normal	27	S1S2+.	B/LAE+	Soft	NFND	14	6	210	25
393	696686	39	Male	Unstable angina	No	No	No	No	No	Yes	No	82	110	70	16	Normal	24	S1S2+.	B/LAE+	Soft	NFND	15	10	281	30
394	698956	41	Male	ST Elevation MI	Yes	No	No	No	No	No	No	90	20	80	18	Normal	36	S1S2+.	B/LAE+	Soft	NFND	13.8	8	214	12
395	698429	73	Male	ST Elevation MI	No	No	No	No	No	No	No	86	130	80	16	Normal	34	S1S2+.	B/LAE+	Soft	NFND	13	10	396	18
396	698955	65	Male	ST Elevation MI	No	No	No	No	No	No	No	88	140	90	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	12	12	180	15
397	699378	70	Male	ST Elevation MI	No	No	No	No	No	No	No	58	100	60	20	Normal	28.8	S1S2+.	B/LAE+	Soft	NFND	9.9	9	232	30
398	698383	48	Male	ST Elevation MI	Yes	Yes	No	No	No	No	No	88	120	80	16	Normal	31	S1S2+.	B/LAE+	Soft	NFND	11	9	380	28
399	699756	49	Male	ST Elevation MI	No	No	No	No	No	Yes	Yes	88	120	80	16	Normal	28	S1S2+.	B/LAE+	Soft	NFND	18	12	208	20
400	669305	65	Female	Non-ST elevation MI	No	Yes	Yes	No	No	No	No	84	120	80	18	Normal	28	S1S2+.	B/LAE+	Soft	NFND	11	12	250	21

S.no	SR. Creatinine	Sodium	Potassium	Chloride	RBS	HBA1C	Total cholesterol	HDL	SR. Triglycerides	LDL	VLDL	Troponin I	ECG	LV function (%)	LMCA	LMC ACC/AHA grade	LAD	LAD ACC/AHA grade	LCX	LCX ACC/AHA grade
1	102	136	4.1	107	140	6.45	204	34	130	110	20	Elevated	Anterior wall MI	35	Not involved	NO	Involved	A	Involved	A
2	0.6	132	4.5	104	204	7.5	156	37	157	130	30	Elevated	Inferior wall MI	45	Not involved	NO	Involved	C	Involved	C
3	1	141	3.7	100	160	8.2	160	35	136	150	22	Elevated	Inferior wall MI	35	Not involved	NO	Involved	C	Not involved	NO
4	1.2	136	3.6	105	5.9	90	200	34	160	80	30	Elevated	Inferolateral wall MI	30	Not involved	NO	Involved	B	Involved	A
5	0.9	133	4.1	99	78	5.8	186	42.4	155	90	28.6	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	C
6	1.2	139	4.6	102	86	7.2	186	45	150	92	29	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	C
7	0.9	137	4.6	107	206	8	186	39	148	99	29	Elevated	Inferior wall MI	55	Not involved	NO	Involved	C	Involved	C
8	0.6	136	4.6	98	98	5.6	200	50	148.6	85	20	Elevated	Anterior wall MI	40	Not involved	NO	Involved	B	Not involved	NO
9	1.2	131	3.5	105	126	9.2	218	37	378	105	35	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Involved	C
10	1	136	4.2	102	106	6	204	26.3	240	98	48	Elevated	Inferior wall MI	52	Not involved	NO	Involved	B	Involved	A
11	1.2	136	4.1	106	104	6.2	212	56.1	206.4	86	34	Elevated	Inferior wall MI	35	Involved	C	Involved	C	Involved	B
12	1.2	135	3.9	97.4	129	5.4	163	26.3	240	56	48	Elevated	Anterior wall MI	33	Not involved	NO	Involved	A	Not involved	NO
13	0.91	127	3.9	88.7	101	5.6	161	41.5	93	53	19	Elevated	Anterolateral wall MI	35	Not involved	NO	Involved	C	Not involved	NO
14	1	140	3.5	98	190	7.34	264	38	160	65	24	Elevated	Anterior wall MI	41	Not involved	NO	Involved	B	Involved	A
15	0.4	138	4.2	102	110	5.65	186	56	148	75	35	Elevated	Anterior wall MI	50	Not involved	NO	Involved	C	Not involved	NO
16	9	132	4.9	106	160	5.5	186	36	260	120	28	Elevated	Inferior wall MI	50	Not involved	NO	Involved	A	Involved	B
17	0.9	138.3	4.6	101.7	88	5.67	188	36	150	89	26.3	Elevated	Non-ST elevation MI	45	Involved	A	Involved	B	Involved	C
18	0.8	140	3.7	98.2	260	7.95	156	38.2	172	108	34	Normal	Normal	48	Not involved	NO	Involved	B	Involved	B
19	0.7	134	3.4	102	106	5.67	209	28	168	110	49	Elevated	Inferolateral wall MI	55	Not involved	NO	Involved	C	Involved	A
20	0.96	139	4	101	67	7.2	146	29.3	184	95	37	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	B	Not involved	NO
21	1.08	135	3.8	96.9	105	6.7	168	26.3	229	110	46	Elevated	Anterior wall MI	60	Not involved	NO	Involved	B	Not involved	NO
22	1.35	130	5.45	92	103	6.8	181	34.5	271	96	54	Elevated	Anterior wall MI	55	Not involved	NO	Involved	C	Not involved	NO
23	1.07	130	3.7	91	241	8.67	240	26	180	110	44	Elevated	Anterior wall MI	38	Not involved	NO	Involved	A	Involved	B
24	0.4	138	4.6	98	180	6.8	180	40	148	95	28	Elevated	Anterior wall MI	38	Not involved	NO	Involved	C	Not involved	NO
25	0.4	139	4.1	102	114	5.6	186	50	160	96	32	Elevated	Anterior wall MI	35	Not involved	NO	Not involved	NO	Not involved	NO
26	1	136	4.7	94	160	6.2	220	37.9	191	120	49	Elevated	Anterior inferior wall MI	40	Not involved	NO	Involved	C	Involved	C
27	0.9	141	3.6	102	102	5.7	189	36	138	69	33	Elevated	Non-ST elevation MI	61	Involved	B	Not involved	NO	Not involved	NO
28	0.9	136	4.8	98	109	5.89	126	35	140	86	28	Elevated	Anterior wall MI	38	Not involved	NO	Involved	C	Not involved	NO
29	0.6	138	4.7	101	142	5.47	182	39.4	148	96	28.6	Elevated	Non-ST elevation MI	43	Not involved	NO	Involved	B	Not involved	NO
30	1.1	142	3.4	102	126	6.5	189	59	180	96	45	Elevated	Anterior wall MI	35	Not involved	NO	Involved	B	Not involved	NO
31	0.9	144	4.4	103	111	6.24	232	26	158	120	27	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Not involved	NO

32	0.24	136	4.27	89	140	5.67	192	45	160	110	28	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Involved	B
33	0.2	134	3.2	106	242	8.37	182	38.2	134	96	28.67	Elevated	Non-ST elevation MI	40	Not involved	NO	Involved	B	Involved	C
34	1	141	3.5	103	127	5.75	210	35	180	98	32	Elevated	IPWMI	48	Involved	B	Involved	C	Involved	B
35	0.83	134	3.9	96.9	87	5.45	194	28.7	155	105	31	Elevated	Non-ST elevation MI	60	Not involved	NO	Not involved	NO	Involved	C
36	0.5	136	4.1	140	149	5.67	210	24	189	130	34	Elevated	Inferolateral wall MI	60	Not involved	NO	Involved	B	Not involved	NO
37	1.08	134	4.2	97	241	9.2	152	30.7	254	120	51	Elevated	Inferior wall MI	35	Not involved	NO	Involved	B	Involved	C
38	0.9	139	3.5	96	111	5.68	164	34.8	158	95	32	Elevated	Non-ST elevation MI	50	Not involved	NO	Involved	A	Not involved	NO
39	0.6	147	4.1	102	240	8.65	128	28.2	240	102	48	Elevated	IPWMI	40	Not involved	NO	Involved	A	Involved	C
40	1	139	4.3	104	99	6.75	200	40	180	103	28	Elevated	Anterior wall MI	60	Not involved	NO	Involved	B	Involved	C
41	0.9	134	4.5	102	126	6.84	174	50	148	98	28	Elevated	Non-ST elevation MI	58	Not involved	NO	Involved	B	Involved	C
42	0.6	145	4.8	101	130	5.9	210	38	278	110	34	Elevated	Anterior wall MI	55	Not involved	NO	Involved	C	Involved	C
43	0.9	136	3.9	98	87	8.56	194	28.7	155	102	21	Elevated	Non-ST elevation MI	60	Not involved	NO	Not involved	NO	Involved	C
44	1.07	132	4	99.5	242	7.45	137	35.3	113	89	23	Elevated	Non-ST elevation MI	38	Involved	A	Involved	C	Involved	B
45	0.7	128	3.4	86	285	7.65	207	38.3	71	85	14	Elevated	IPWMI	33	Involved	A	Involved	A	Involved	A
46	1	138	4.9	100	204	9.6	190	62	170	110	36	Elevated	Inferior wall MI	58	Not involved	NO	Involved	C	Involved	B
47	1	137	3.4	97	54	5.45	151	43.8	103	104	21	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
48	1.04	133	3.8	92	344	8.94	85	29.6	121	98	24	Elevated	Anterior wall MI	60	Involved	A	Involved	C	Involved	C
49	1	136	3.5	94	92	5.62	89	79	158	98	28	Elevated	Anterior wall MI	38	Not involved	NO	Involved	C	Involved	C
50	1	135	3.7	93	125	5.68	197	32.5	124	92	25	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Not involved	NO
51	1.2	130	5.48	92	103	5.4	181	34.5	271	11	54	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Not involved	NO
52	0.9	136	3.6	102	101	5.84	101	31.9	62	86	12	Elevated	Non-ST elevation MI	45	Not involved	NO	Involved	C	Involved	B
53	1	136	3.5	95	198	6.74	193	23.1	258	98	52	Elevated	Anterior wall MI	60	Not involved	NO	Involved	A	Involved	B
54	0.61	143	3.4	107	93	5.34	200	35.8	247	98	49	Elevated	Non-ST elevation MI	45	Not involved	NO	Involved	C	Not involved	NO
55	1.1	135	3	98	93	5.28	186	42	160	88	26.2	Elevated	Anterior wall MI	51	Not involved	NO	Involved	C	Involved	A
56	0.4	136	4	102	110	5.5	2.4	24.6	263	120	42	Normal	Normal	40	Not involved	NO	Not involved	NO	Not involved	NO
57	1.2	138	4.2	98	69	4.45	180	44	141	90	28	Elevated	IPWMI	50	Not involved	NO	Involved	A	Involved	A
58	0.4	145	4.7	102	202	8.65	186	32	168	102	24	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	A	Involved	B
59	1.08	128	4.3	91.2	133	6.75	186	32	162	90	18	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	A
60	1	134	4.7	99	97	5.95	200	55	150	120	30	Elevated	IPWMI	60	Not involved	NO	Involved	C	Involved	C
61	0.87	141	4.1	105	125	6.1	214	34.5	194	98	40	Elevated	IW+RWMI	50	Not involved	NO	Not involved	NO	Not involved	NO
62	1.2	146	4.7	100	188	8.2	206	50	160	98	18	Elevated	Non-ST elevation MI	50	Not involved	NO	Involved	C	Involved	C
63	1.63	136	4	98	97	5.8	186	35	146	98	18	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Not involved	NO
64	0.76	142	4	100	104	5.34	188	35	140	98	26	Elevated	Anterolateral wall MI	35	Not involved	NO	Involved	A	Not involved	NO
65	1.2	139	4	98	96	5.5	180	37	120	102	31	Elevated	Non-ST elevation MI	42	Not involved	NO	Involved	A	Not involved	NO
66	0.6	136	3.5	102	196	6.9	104	36	11	106	29	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	C
67	1.2	136	4.2	97	126	8.4	202	35	167	110	42	Elevated	Inferior wall MI	60	Not involved	NO	Involved	B	Involved	B
68	1	136	4.7	98	102	5.7	192	30	152	97	18	Elevated	PWMI	50	Not involved	NO	Involved	B	Involved	C
69	1.2	136	4.6	89	106	5.8	189	36	139	102	20	Elevated	Inferior wall MI	55	Not involved	NO	Involved	A	Not involved	NO

70	1	132	3.6	102	109	5.7	186	38	138	102	20	Elevated	Non-ST elevation MI	60	Involved	C	Not involved	NO	Not involved	NO
71	0.8	138	4.2	96	204	6.5	186	32	146	98	26	Elevated	IPWMI	45	Not involved	NO	Involved	C	Involved	A
72	0.8	137	3.6	101	140	6.5	180	36	140	98	26	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
73	0.87	148	3.6	102	116	5.4	180	36	140	102	41	Elevated	Non-ST elevation MI	45	Involved	C	Involved	B	Involved	C
74	0.8	140	3.6	92	164	9.2	150	86	160	120	45	Elevated	Non-ST elevation MI	50	Not involved	NO	Involved	C	Involved	A
75	0.87	137	4.4	101	65	4.5	128	27	101	102	20	Elevated	Anterior septal wall MI	45	Not involved	NO	Involved	C	Not involved	NO
76	0.9	129	4	102	211	9.04	103	17.9	168	102	34	Elevated	IPWMI	55	Not involved	NO	Involved	A	Involved	B
77	0.9	136	4	98	102	5.8	138	29.3	192	102	38	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Not involved	NO
78	1	136	4	100	282	8.5	180	40	140	89	25	Elevated	Anterior wall MI	60	Not involved	NO	Involved	A	Involved	B
79	1.19	133	3.5	95	96	5.5	223	35.4	120	165	24	Elevated	Inferior wall MI	60	Not involved	NO	Involved	A	Not involved	NO
80	0.76	140	3.6	104	96	5.8	129	30	131	120	26	Elevated	Inferior wall MI	53	Involved	B	Involved	A	Involved	C
81	0.4	136	4.2	98	40	5.34	193	31.9	245	110	49	Elevated	Anterior wall MI	50	Not involved	NO	Involved	B	Not involved	NO
82	0.9	131	4.6	98	207	6.9	120	31.9	160	102	32	Elevated	IPWMI	55	Not involved	NO	Involved	C	Not involved	NO
83	1.3	130	5.4	92	103	6.5	181	34.5	271	112	54	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Not involved	NO
84	0.89	140	4.3	100	104	6.2	166	36.2	199	109	30	Normal	Normal	60	Not involved	NO	Involved	A	Not involved	NO
85	0.6	134	4.31	100	64	5.45	153	40	90	100	18	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Not involved	NO
86	1.4	139	3.3	95	191	8.3	149	5	99	102	20	Elevated	Non-ST elevation MI	40	Not involved	NO	Involved	A	Not involved	NO
87	0.8	136	3.36	104	211	9.24	180	36	140	102	20	Elevated	IPWMI	53	Not involved	NO	Involved	B	Involved	B
88	1	136	4.1	98	249	10.2	184	36	189	110	49	Elevated	Non-ST elevation MI	35	Not involved	NO	Involved	B	Involved	B
89	0.8	136	3.44	94	127	6.1	125	33	142	71	28	Normal	Normal	60	Involved	C	Involved	C	Involved	C
90	1.26	138	4	104	104	6.78	178	37	260	117	52	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	B
91	0.96	128	4.4	95	281	11.4	128	22.6	176	83	35	Elevated	Non-ST elevation MI	40	Involved	B	Involved	C	Involved	C
92	0.9	135	4.7	100	93	5.45	201	45	108	136	22	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Not involved	NO
93	0.87	3.4	96.3	102	109	5.49	180	36	140	102	21.2	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	B
94	0.9	136	4.6	99	254	9.45	128	30.2	183	73	37	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	B
95	1.3	137	5.4	104	208	8.45	184	36	140	102	28	Elevated	Non-ST elevation MI	50	Not involved	NO	Involved	C	Involved	C
96	1	136	3.7	95	93	6.24	186	30	140	102	27.6	Elevated	Inferior wall MI	50	Involved	A	Involved	B	Involved	C
97	0.7	140	3.9	97	78	4.56	180	54	136	99	29.2	Elevated	Non-ST elevation MI	54	Not involved	NO	Involved	C	Not involved	NO
98	0.7	145	39	107	109	5.78	179	48	97	110	19	Elevated	Anterior wall MI	38	Not involved	NO	Involved	C	Not involved	NO
99	0.6	137	4.1	102	275	11.25	268	28	268	120	48	Elevated	Non-ST elevation MI	50	Not involved	NO	Involved	C	Involved	C
100	0.8	141	3.54	102	106	5.34	186	34	136	78	22	Elevated	Inferolateral wall MI	60	Not involved	NO	Involved	B	Involved	C
101	0.6	136	4.6	99	125	6.64	81	33	149	80	30	Elevated	Non-ST elevation MI	54	Not involved	NO	Involved	C	Not involved	NO
102	0.6	127	3.59	96	152	6.9	166	31	101	102	20	Elevated	Non-ST elevation MI	60	Involved	B	Involved	C	Involved	B
103	0.8	137	4.3	35	163	7.35	112	34	186	58	37	Elevated	Inferior wall MI	60	Involved	C	Involved	B	Not involved	NO
104	1.27	135	4.4	96.6	151	6.9	180	40	136	80	26.9	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
105	0.79	125	4.4	87.2	118	5.7	179	40	141	89	34	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Not involved	NO
106	1.28	133	3.9	94	146	6.7	194	35	161	110	32	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Involved	C
107	0.4	138	5	92	180	7.2	200	45	150	90	34	Normal	Normal	60	Not involved	NO	Involved	C	Not involved	NO

108	0.9	142	3.8	101	120	5.64	290	28	320	120	46	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Not involved	NO
109	0.4	132	5.2	102	190	7.2	180	45	140	120	28	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	A	Not involved	NO
110	0.8	136	4.2	10	240	8.45	189	56	180	120	35	Elevated	Normal	60	Not involved	NO	Involved	C	Not involved	NO
111	1	135	4.7	98	164	6.9	220	24	180	120	40	Elevated	Normal	50	Not involved	NO	Involved	C	Involved	A
112	0.8	137	4.7	102	160	6.2	180	45	145	86	30	Elevated	Inferolateral wall MI	45	Not involved	NO	Not involved	NO	Involved	C
113	0.9	135	4	97	201	7.1	180	38	148	58	30	Normal	Normal	45	Not involved	NO	Involved	C	Not involved	NO
114	0.9	133	4	100	196	7.9	250	35	200	120	45	Normal	Normal	55	Not involved	NO	Involved	C	Not involved	NO
115	0.5	134	4.8	98	240	6.9	320	60	156	120	35	Elevated	Inferolateral wall MI	55	Not involved	NO	Involved	C	Involved	A
116	0.8	139	4.6	109	191	5.4	210	45	180	120	45	Normal	Normal	55	Not involved	NO	Involved	A	Not involved	NO
117	1.2	132	4.1	100	302	10.2	240	45	180	130	40	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	C
118	0.7	136	4	103	140	6.2	230	50	180	140	40	Elevated	Anterior wall MI	55	Not involved	NO	Involved	A	Not involved	NO
119	1	136	5.2	99	302	8.2	290	35	190	130	60	Elevated	Inferior wall MI	55	Not involved	NO	Involved	C	Involved	A
120	0.7	136	4	102	202	6.7	202	39	140	120	40	Normal	Normal	60	Not involved	NO	Involved	A	Not involved	NO
121	0.8	135	5	103	245	8.4	230	45	230	135	40	Elevated	Inferior wall MI	45	Not involved	NO	Involved	C	Involved	C
122	0.8	129	4.9	97	190	7.2	180	45	170	135	30	Elevated	Normal	60	Not involved	NO	Involved	C	Involved	A
123	1.3	136	4.6	98	170	7.01	180	39	136	53	26	Elevated	Anterior wall MI	45	Not involved	NO	Involved	B	Not involved	NO
124	0.9	133	3.9	96	140	6.35	145	28	201	130	40	Elevated	Inferolateral wall MI	50	Not involved	NO	Involved	C	Involved	B
125	0.6	135	4.3	106	98	5.65	230	52	240	150	35	Normal	Normal	60	Not involved	NO	Involved	C	Not involved	NO
126	0.4	133	4.2	106	340	10.4	245	35	220	135	38	Elevated	Inferior wall MI	35	Not involved	NO	Not involved	NO	Involved	C
127	0.7	136	4.9	100	140	5.89	108	27	148	110	26	Elevated	Anterior wall MI	55	Not involved	NO	Involved	C	Not involved	NO
128	1.1	136	4.3	107	170	6.24	180	45	160	110	28	Elevated	Inferior wall MI	45	Involved	A	Involved	A	Involved	A
129	0.8	138	4.4	105	260	8.24	240	22	210	140	55	Elevated	Inferior wall MI	55	Not involved	NO	Not involved	NO	Not involved	NO
130	0.7	136	3.3	100	202	7.65	232	45	260	140	40	Elevated	Inferior wall MI	50	Not involved	NO	Involved	C	Involved	C
131	0.8	133	3.4	95	120	5.68	180	32	140	110	32	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Not involved	NO
132	0.9	133	4	104	198	6.8	204	34	196	142	35	Elevated	LVH	60	Not involved	NO	Involved	C	Not involved	NO
133	0.9	135	4.4	119	120	6.12	186	40	196	136	26	Elevated	Normal	55	Not involved	NO	Involved	C	Not involved	NO
134	1	134	4.2	107	320	9.2	190	24	320	149	54	Elevated	Anterolateral wall MI	40	Not involved	NO	Involved	C	Not involved	NO
135	1	136	4.2	115	135	6.1	182	45	148	110	28	Elevated	Inferior wall MI	55	Not involved	NO	Not involved	NO	Not involved	NO
136	0.7	138	3.9	120	102	5.68	220	40	180	148	35	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	C
137	1.1	134	3	111	140	5.98	210	40	190	120	40	Elevated	Anterior wall MI	60	Not involved	NO	Involved	A	Not involved	NO
138	0.9	139	3.6	114	90	5.35	190	38	180	130	30	Elevated	Inferolateral wall MI	30	Not involved	NO	Involved	C	Involved	C
139	0.6	138	3.9	110	102	5.64	182	32	172	124	32	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Not involved	NO
140	0.9	136	4.1	113	130	5.68	190	34	190	136	32	Normal	Normal	55	Not involved	NO	Not involved	NO	Involved	C
141	0.6	142	4.7	117	202	8.2	240	34	210	156	48	Elevated	Inferior wall MI	40	Not involved	NO	Involved	A	Not involved	NO
142	0.7	136	3.8	116	180	7.12	178	34	148	110	30	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	A	Not involved	NO
143	0.7	134	4.2	109	260	9.2	230	29	24	140	28	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Not involved	NO
144	0.6	137	4.3	114	71	5.45	210	50	180	110	28	Elevated	Inferior wall MI	45	Not involved	NO	Not involved	NO	Not involved	NO
145	0.9	138	4.1	117	102	6.24	110	30	140	102	28	Elevated	Inferior wall MI	45	Not involved	NO	Involved	B	Involved	B

146	0.5	131	4.2	107	120	6.98	210	36	180	140	28	Elevated	Anterior wall MI	25	Not involved	NO	Involved	C	Not involved	NO
147	0.8	137	3.9	112	102	5.43	190	35	160	110	30	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Not involved	NO
148	0.7	139	4.4	115	120	6.1	160	42	180	116	35	Normal	Normal	60	Not involved	NO	Involved	A	Not involved	NO
149	0.7	134	4.2	109	208	8.78	220	34	210	148	40	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Involved	C
150	0.8	133	4	107	106	6.45	180	56	156	89	24	Elevated	Inferior wall MI	40	Not involved	NO	Not involved	NO	Not involved	NO
151	0.9	134	4.1	115	178	5.34	204	45	180	128	58	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
152	0.8	135	4.1	108	320	10.86	290	24	260	135	24	Elevated	Inferior wall MI	50	Not involved	NO	Involved	A	Not involved	NO
153	0.7	138	3	106	110	6.1	120	34	160	110	28	Elevated	Non-ST elevation MI	35	Not involved	NO	Not involved	NO	Involved	A
154	0.8	138	3.8	111	102	5.45	180	24	186	110	32	Normal	LVH	40	Not involved	NO	Involved	A	Not involved	NO
155	0.6	132	4.2	102	164	5.64	260	69	210	132	60	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
156	0.4	137	4.1	109	402	12	218	36	180	135	38	Elevated	Anterior septal wall MI	45	Not involved	NO	Involved	C	Involved	B
157	0.8	134	4.7	110	128	6.1	180	24	138	102	19	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
158	1.2	134	5.2	112	220	7.84	210	32	180	140	28	Elevated	Inferior wall MI	55	Not involved	NO	Not involved	NO	Involved	C
159	0.7	140	4.8	111	109	5.9	210	28	140	140	34	Normal	Normal	50	Not involved	NO	Involved	A	Not involved	NO
160	0.8	138	4.2	110	198	5.38	180	38	160	135	30	Elevated	Anterior wall MI	50	Not involved	NO	Involved	C	Not involved	NO
161	0.9	136	4.1	112	228	6.92	220	30	180	160	28	Elevated	Inferior wall MI	45	Not involved	NO	Involved	A	Not involved	NO
162	0.6	138	4.1	113	289	8.98	186	32	160	138	24	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Not involved	NO
163	0.7	134	4.3	109	202	12.82	210	20	180	138	28	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Not involved	NO
164	0.6	134	3.6	114	160	5.45	180	40	130	110	28	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	B
165	0.8	138	4.2	113	110	6.92	128	30	140	90	28	Elevated	Inferior wall MI	30	Not involved	NO	Involved	B	Involved	C
166	1.3	130	4.6	109	138	6.28	126	35	138	110	40	Normal	Normal	55	Not involved	NO	Involved	A	Involved	A
167	0.6	35	3.7	110	312	8.2	240	20	180	142	28	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Involved	A
168	0.8	141	4.7	119	219	9.2	210	28	203	160	20	Normal	Normal	45	Not involved	NO	Involved	C	Involved	C
169	0.6	134	4.3	105	508	11.1	300	38	220	150	40	Elevated	Inferolateral wall MI	40	Not involved	NO	Not involved	NO	Involved	C
170	0.8	135	5.5	112	128	5.45	186	30	190	150	28	Elevated	Inferior wall MI	55	Not involved	NO	Involved	A	Involved	B
171	0.7	137	4.4	110	290	10.6	110	30	148	102	30	Normal	Normal	60	Not involved	NO	Not involved	NO	Involved	A
172	1.2	133	4.5	107	199	6.89	200	30	189	140	28	Normal	Normal	60	Not involved	NO	Involved	A	Not involved	NO
173	1.2	137	3.9	110	186	5.12	120	36	160	91	28	Elevated	Non-ST elevation MI	55	Not involved	NO	Involved	A	Involved	C
174	0.7	134	4	109	182	5.67	180	34	138	94	36	Normal	Normal	60	Not involved	NO	Involved	C	Involved	C
175	0.7	138	4.3	117	250	8.96	206	32	195	162	20	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
176	0.5	136	3.2	116	186	6.2	180	35	148	110	25	Elevated	Inferior wall MI	40	Not involved	NO	Not involved	NO	Not involved	NO
177	0.9	137	4	119	302	6.98	260	30	202	160	28	Elevated	Non-ST elevation MI	55	Involved	A	Involved	C	Involved	C
178	1.1	127	3.8	101	378	13.24	202	30	180	130	20	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Involved	B
179	0.8	139	5.1	110	178	5.5	158	45	143	102	28	Elevated	Inferior wall MI	50	Not involved	NO	Not involved	NO	Not involved	NO
180	1.3	138	4.4	112	180	7.9	208	22	168	138	29	Elevated	Non-ST elevation MI	30	Not involved	NO	Involved	C	Involved	C
181	0.8	136	4.4	113	130	5.14	150	38	148	110	28	Elevated	Inferior wall MI	45	Not involved	NO	Involved	A	Involved	B
182	0.8	137	4.6	96	189	5.87	220	20	180	151	28	Elevated	Anterior wall MI	55	Not involved	NO	Involved	C	Not involved	NO
183	0.9	139	3.8	113	123	5.68	202	30	170	132	28	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Not involved	NO

184	1	1336	4.7	118	208	7.2	208	30	160	132	24	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	A
185	0.8	136	4.6	112	136	5.67	140	36	146	123	22	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Involved	B
186	1	131	3.7	107	184	6.23	260	22	96	138	45	Elevated	Inferior wall MI	45	Not involved	NO	Involved	C	Involved	C
187	0.8	140	4.4	93	326	9.45	190	22	204	168	22	Normal	Normal	60	Not involved	NO	Not involved	NO	Not involved	NO
188	0.9	144	3.55	110	80	5.34	150	38	123	83	29	Elevated	Non-ST elevation MI	50	Not involved	NO	Involved	A	Involved	A
189	0.7	134	4.3	3.6	72	5.49	168	27.8	187	148	29	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
190	0.9	136	4.8	90	180	6.4	110	29	140	90	25	Elevated	Inferior wall MI	30	Not involved	NO	Involved	C	Not involved	NO
191	0.6	139	3.9	106	204	9.2	196	29	184	122	39	Normal	Normal	55	Not involved	NO	Involved	A	Not involved	NO
192	1.2	128	4.3	87	267	10.87	184	24	199	129	47	Elevated	Anterolateral wall MI	30	Not involved	NO	Involved	C	Involved	A
193	0.9	138	4.9	99	130	5.45	145	50	134	92	27	Normal	Right bundle branch block	30	Not involved	NO	Involved	C	Not involved	NO
194	0.8	134	4.2	99	140	5.98	204	24	192	140	37	Elevated	Anterior inferior wall MI	55	Not involved	NO	Not involved	NO	Not involved	NO
195	0.5	138	3.4	105	234	10.5	245	35	220	135	38	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
196	0.9	134	4.5	101	404	10.9	260	30	198	144	37	Elevated	IPWMI	40	Not involved	NO	Not involved	NO	Involved	B
197	0.9	141	5	104	124	5.65	190	28	179	138	31	Normal	Normal	50	Not involved	NO	Involved	C	Not involved	NO
198	0.5	135	4.1	102	346	9.64	156	38	158	102	24	Normal	Normal	60	Involved	B	Involved	C	Involved	C
199	0.9	136	4.1	106	160	6.2	162	36	148	104	29	Elevated	IPWMI	50	Not involved	NO	Not involved	NO	Not involved	NO
200	0.7	139	4.5	92	206	7.45	210	36	194	146	42	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	C
201	0.76	135	3.3	96.2	192	7.12	156	38.2	172	108	34	Elevated	IPWMI	48	Not involved	NO	Involved	B	Involved	B
202	1	136	5	102	112	5.4	150	38	148	90	28	Elevated	Anterior wall MI	40	Involved	C	Involved	C	Involved	C
203	0.47	141	3.7	97	141	5.8	201	40	180	100	28	Elevated	Anterior wall MI	49	Not involved	NO	Involved	C	Involved	A
204	1.2	140	4.7	102	120	6.25	198	45	140	130	21	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	C
205	0.9	138	4.6	101.7	88	8.2	160	31.5	110	80	21	Normal	Normal	46	Involved	A	Involved	B	Involved	C
206	0.4	142	3.4	102	151	7.8	210	30	160	180	31	Normal	Normal	60	Not involved	NO	Involved	A	Not involved	NO
207	1	136	4.1	99.2	97	6.2	150	32.7	274	155	55	Normal	Normal	58	Not involved	NO	Involved	C	Involved	C
208	0.57	137	3.9	10.1	294	10	180	30	200	190	40	Elevated	Anterior wall MI	57	Not involved	NO	Involved	B	Not involved	NO
209	0.47	139	3.5	101.6	203	9.6	206	32.5	240	200	38	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
210	0.6	130	4.5	102	250	7.9	200	50	140	130	29	Elevated	Inferior wall MI	60	Not involved	NO	Involved	C	Involved	B
211	1.2	135	4.26	97.3	323	8.2	240	30	170	200	34.5	Elevated	Inferior wall MI	48	Not involved	NO	Involved	C	Not involved	NO
212	1.07	141.6	4.1	102.9	88	6.2	180	38.9	121	123	24	Elevated	Non-ST elevation MI	40	Involved	C	Involved	C	Not involved	NO
213	0.74	136	3.1	97.9	114	5.8	179	47.2	106	115	21	Elevated	PWMI	50	Not involved	NO	Involved	C	Involved	C
214	1.01	128	4.7	86.2	334	9.8	218	52.9	160	151	32	Elevated	Inferior wall MI	60	Not involved	NO	Not involved	NO	Not involved	NO
215	1.22	139.5	4.5	106.2	70	5.9	211	36.5	183	170	40	Normal	Left bundle branch block	57	Not involved	NO	Involved	B	Not involved	NO
216	0.93	131.9	4.5	93.7	280	9.2	203	36.5	102	144	20	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Not involved	NO
217	0.4	135	3.93	110	263	10.4	111	34	152	140	36	Normal	Normal	55	Not involved	NO	Involved	C	Not involved	NO
218	0.8	135	4.6	112	295	8.9	188	35.5	111	130	28	Elevated	LWMI	60	Not involved	NO	Involved	B	Involved	C
219	1.7	144	3.5	105.8	120	11.2	250	32	160	172	38	Elevated	Inferior wall MI	57	Not involved	NO	Involved	C	Involved	C
220	1.2	145	4.5	102	182	6.2	210	36	148.5	120	34	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Not involved	NO
221	1	135	3.33	88	65	10.4	220	40	159	120	40	Elevated	Non-ST elevation MI	60	Not involved	NO	Not involved	NO	Not involved	NO

222	1.2	134	4.1	92	160	6.35	190	38	140	92	28	Normal	Normal	38	Not involved	NO	Involved	C	Involved	B
223	0.79	134	3.6	98	160	5.5	157	39.5	166	89	33	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Not involved	NO
224	1.86	134	4.7	102.5	128	10.6	188	42	170	150	45	Elevated	Non-ST elevation MI	45	Not involved	NO	Involved	C	Involved	C
225	1.22	133.7	5.9	101.2	299	9.6	108	40.3	206	42	41	Elevated	Anterior wall MI	46	Not involved	NO	Involved	B	Not involved	NO
226	0.9	136	4.5	102	180	9.2	240	30	160	100	32	Normal	Normal	60	Not involved	NO	Not involved	NO	Involved	C
227	1.14	139.7	4	101.9	142	6.9	190	39	140	80	28	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	A
228	0.7	139.5	4	103.3	122	5.67	220	36	160	120	30	Elevated	Anterior wall MI	58	Not involved	NO	Involved	A	Not involved	NO
229	0.6	132	4.5	101	125	6.28	113	66.9	50	36	10	Elevated	Non-ST elevation MI	45	Involved	B	Involved	C	Involved	C
230	0.94	141	4.4	103.2	227	11.2	152	35.3	150	103	30	Normal	Right bundle branch block	45	Not involved	NO	Involved	C	Involved	C
231	1.2	136	4.2	101.2	341	9.2	140	38.5	148	80	29	Normal	Normal	60	Not involved	NO	Involved	C	Not involved	NO
232	1.2	127	4.17	90.4	98	5.24	206	40	156	120	28	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Not involved	NO
233	0.9	136	4.7	101.2	346	8.6	210	38.5	165	102	25	Normal	Normal	60	Not involved	NO	Involved	B	Involved	C
234	0.83	140.3	4.2	105.7	116	5.46	158	34.3	144	29	29	Elevated	Non-ST elevation MI	60	Not involved	NO	Not involved	NO	Not involved	NO
235	0.95	134.7	3	96.9	107	6.24	90	21.1	144	48	29	Elevated	Non-ST elevation MI	50	Not involved	NO	Involved	C	Not involved	NO
236	0.69	135.2	3.9	96.2	224	9.68	179	30.1	436	149	87	Elevated	IPWMI	45	Not involved	NO	Involved	C	Involved	C
237	13	141	4.51	101.7	98	9.3	198	31.6	325	132	65	Elevated	Non-ST elevation MI	40	Not involved	NO	Involved	B	Not involved	NO
238	0.9	132	4.2	91.6	76	5.6	179	25.3	290	125	58	Elevated	Anterior wall MI	50	Not involved	NO	Involved	B	Not involved	NO
239	0.77	138.4	3.4	101.8	251	11.2	89	26.9	246	38	49	Normal	Normal	58	Involved	C	Involved	C	Involved	A
240	0.82	136.6	4.1	100.8	138	6.8	172	21.1	848	151	170	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Involved	B
241	1.2	132	4.12	96.8	116	9.4	142	37	74	98	15	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Not involved	NO
242	1.1	134	3.5	102	102	5.28	188	36.5	152	150	19	Elevated	Non-ST elevation MI	60	Not involved	NO	Not involved	NO	Involved	C
243	1.3	141	4.51	101.7	98	5.69	198	31.6	325	166	65	Elevated	Anterior wall MI	40	Not involved	NO	Involved	B	Not involved	NO
244	0.87	137.1	3.9	104	318	10.64	170	26.3	331	103	66	Elevated	Non-ST elevation MI	60	Involved	C	Not involved	NO	Involved	B
245	0.89	140.4	4.1	10.67	79	11.63	87	35.6	79	46	16	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	B
246	0.78	131.7	3.7	93.3	137	12.32	300	35	260	228	36	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	C
247	1	132	3.98	94.3	187	5.24	200	50	148	88	26	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Not involved	NO
248	0.7	132	3.9	96.7	112	7.38	188	38	148	58	16	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
249	0.7	137	3.91	99.9	99	5.4	260	30	180	200	39	Elevated	Anterior wall MI	60	Not involved	NO	Not involved	NO	Not involved	NO
250	0.7	132	4.2	101	140	5.6	179	30.2	172	124	34	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Not involved	NO
251	0.9	140	4.05	98.1	89	5.48	200	50	130	86	30	Elevated	Inferior wall MI	60	Not involved	NO	Not involved	NO	Not involved	NO
252	1.1	139	4.67	101.9	41	13.6	152	37	142	91	25	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	C
253	0.6	142	4.33	99.2	121	5.24	162	30	129	108	25	Elevated	Anterior wall MI	50	Not involved	NO	Involved	C	Not involved	NO
254	0.7	138	3.46	97	97	5.64	198	37.8	313	121	63	Elevated	Non-ST elevation MI	45	Not involved	NO	Involved	C	Not involved	NO
255	1	137	4.6	102	253	12.2	320	30	152	170	40	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	B
256	1.2	135	4.7	105	160	5.6	244	50	130	99	32	Elevated	Inferior wall MI	35	Not involved	NO	Involved	A	Not involved	NO
257	0.4	138	4.6	101	224	9.34	150	36	132	70.2	24	Elevated	Inferolateral wall MI	50	Not involved	NO	Involved	C	Involved	C
258	1.1	139	4.1	103	140	6.36	244	39	195	150	36	Elevated	Inferolateral wall MI	30	Not involved	NO	Involved	C	Involved	C
259	0.6	137	3.8	103	153	6.12	180	36	148	101	36	Elevated	Inferior wall MI	55	Not involved	NO	Involved	A	Involved	B

260	1	135	3.7	105	120	5.45	133	38	133	73	28	Elevated	Anterior wall MI	50	Not involved	NO	Involved	C	Not involved	NO
261	0.7	136	4	102	243	8.9	143	45	130	133	33	Normal	Normal	55	Not involved	NO	Not involved	NO	Not involved	NO
262	0.7	131	4.7	97	150	10.8	220	30	170	101	60	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Involved	C
263	1.1	131	4.5	99	86	9.2	210	40	105	140	36	Elevated	Inferior wall MI	40	Not involved	NO	Involved	A	Involved	B
264	0.8	137	4.1	107	156	5.46	224	40.5	156	96	23	Elevated	Inferolateral wall MI	40	Not involved	NO	Involved	B	Not involved	NO
265	0.6	135	4.6	98	99	6.7	190	44	111	99	34	Normal	Normal	50	Not involved	NO	Involved	B	Not involved	NO
266	0.6	129	4.5	102	92	5.58	160	23	305	150	60	Elevated	Inferior wall MI	60	Not involved	NO	Not involved	NO	Not involved	NO
267	0.7	136	4	102	243	8.9	143	45	130	133	33	Normal	Normal	55	Not involved	NO	Not involved	NO	Not involved	NO
268	1.1	135	4.1	106	156.3	10.28	244	44	260	145	28	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Involved	C
269	1.1	125	4.4	87	145	9.6	157	46	110	92	28	Elevated	ILMI	50	Not involved	NO	Not involved	NO	Involved	C
270	0.8	134	4.3	101	150	5.6	170	25	221	150	32	Elevated	ILMI	40	Not involved	NO	Not involved	NO	Involved	C
271	0.9	136	4.3	101	260	6.34	230	20	280	157	29	Elevated	Anterior wall MI	55	Not involved	NO	Involved	B	Involved	C
272	0.7	135	4.5	102	270	8.4	169	24	149	120	36	Normal	Normal	55	Not involved	NO	Not involved	NO	Involved	A
273	0.8	142	4.3	98	142	8.8	161	35	170	140	28	Elevated	Inferior wall MI	35	Not involved	NO	Involved	B	Not involved	NO
274	1.6	137	4.2	101	260	14.2	198	35.5	180	99.2	29.2	Elevated	Inferior wall MI	40	Not involved	NO	Involved	B	Not involved	NO
275	0.6	133	3.5	101	153	12.6	140	42	120	88	19	Elevated	Anterior septal wall MI	45	Not involved	NO	Involved	C	Not involved	NO
276	1.3	138	3.5	97	123	8.5	254	28	153	120	26	Elevated	Non-ST elevation MI	25	Not involved	NO	Involved	B	Not involved	NO
277	1.3	136	4	108	372	14.5	289	29	250	166	30	Elevated	Inferior wall MI	40	Involved	C	Involved	C	Involved	C
278	0.5	133	4.2	99	240	8.9	264	32.3	156	148	32	Elevated	Anterior wall MI	25	Not involved	NO	Involved	C	Not involved	NO
279	1.3	136	36	95	190	11.34	252	30	190	121	36	Elevated	Anterior septal wall MI	35	Not involved	NO	Involved	C	Not involved	NO
280	0.5	137	4.2	97	116	7.9	180	37.3	123	78	19.4	Elevated	Inferior wall MI	45	Not involved	NO	Involved	B	Not involved	NO
281	3.4	127	4.7	92	91.5	5.34	233	39	163	112	24	Elevated	ILMI	45	Not involved	NO	Involved	B	Involved	A
282	1.2	136	5.4	108	104	9.34	193	36.5	140.2	96	28	Normal	Normal	40	Involved	A	Involved	C	Involved	B
283	1.2	137	4.6	101	98	6.24	216	34	140	99.3	33	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Not involved	NO
284	0.5	135	4.5	104	119	10.54	154	37.3	141.3	92	21	Normal	Normal	60	Involved	C	Involved	C	Not involved	NO
285	0.9	137	3.9	104	81	5.38	272	33.4	146	129	38	Normal	Inferior wall MI	45	Not involved	NO	Involved	C	Involved	C
286	0.6	126	4.5	94	116	8.95	200	36	250	148	40	Normal	Anterior wall MI	35	Not involved	NO	Involved	A	Involved	A
287	0.9	134	3.2	103	92	5.42	262	34	136.3	110	40	Elevated	Anterior wall MI	45	Involved	A	Involved	C	Involved	A
288	0.7	130	4.4	97	121	7.6	146	38	128.2	79	28	Normal	Normal	60	Not involved	NO	Involved	B	Not involved	NO
289	0.7	133	4.2	102	97	5.38	150	30.2	148	88	30	Elevated	Non-ST elevation MI	50	Involved	A	Involved	C	Involved	C
290	0.7	139	4.4	104	232	10.8	192	37	143	96	24	Normal	Normal	60	Not involved	NO	Involved	A	Not involved	NO
291	0.7	135	4.2	97	144	9.8	270	28	145	132	76	Normal	Normal	45	Not involved	NO	Involved	C	Not involved	NO
292	0.9	136	3.9	107	132	8.8	122	43	191	92	24	Normal	Normal	60	Not involved	NO	Involved	C	Not involved	NO
293	1	134	4.8	101	89	5.26	180	35	140	110	28	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Not involved	NO
294	0.6	134	3.2	102	314	9.2	144	46	123	89	14	Elevated	Non-ST elevation MI	60	Not involved	NO	Involved	C	Involved	C
295	1.1	133	3.8	1.2	78	6.24	270	32	198	156	40	Elevated	Anterior wall MI	60	Not involved	NO	Involved	B	Involved	C
296	1	132	4.9	98	130	6.9	192	48	128	92	28	Normal	Normal	55	Not involved	NO	Involved	C	Not involved	NO
297	0.8	133	3.9	102	143	7.18	140	40	126	95.3	19.3	Normal	Normal	60	Not involved	NO	Involved	B	Involved	B

298	1.1	132	3.9	99	102	8.5	242	35.6	291.3	236	14	Normal	Normal	60	Not involved	NO	Involved	C	Not involved	NO
299	1	134	4.2	102	98	5.8	186	36	120	110	22	Elevated	Non-ST elevation MI	60	Not involved	NO	Not involved	NO	Involved	C
300	0.6	142	4.2	103	205	13.3	290	36	210	139	40	Elevated	Anterior septal wall MI	55	Not involved	NO	Involved	C	Involved	C
301	0.7	10	4	106	128	5.64	146	32	126	102	22	Elevated	Non-ST elevation MI	20	Not involved	NO	Not involved	NO	Involved	A
302	0.7	132	4.1	97	218	9.4	240	46	168	152	36	Elevated	Inferior wall MI	30	Not involved	NO	Involved	B	Involved	A
303	0.7	137	4.7	105	122	5.9	202	30	162	152	28	Normal	Normal	55	Not involved	NO	Involved	A	Involved	C
304	0.6	135	4.4	98	128	8.48	124	30	142	86	27	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	B
305	1.1	137	2.8	100	360	9.89	240	29	192	146	40	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Involved	B
306	0.9	135	4.5	101	160	5.68	140	36	120	92	28	Normal	Normal	35	Not involved	NO	Involved	B	Not involved	NO
307	0.7	135	4.2	103	186	5.96	202	30	158	110	24	Elevated	Inferior wall MI	45	Not involved	NO	Not involved	NO	Not involved	NO
308	0.7	136	4.2	99	128	5.62	104	30	148	86	28	Elevated	Inferolateral wall MI	45	Not involved	NO	Involved	A	Not involved	NO
309	0.6	136	5.6	101	226	14.8	240	32	190	126	28	Normal	Non-ST elevation MI	55	Not involved	NO	Involved	B	Involved	B
310	0.7	136	4.1	101	208	8.64	240	30	240	140	30	Normal	Normal	60	Involved	C	Involved	A	Involved	A
311	0.5	136	3.2	107	306	12.9	220	35	180	125	45	Elevated	Inferior wall MI	50	Not involved	NO	Involved	C	Involved	A
312	0.4	135	3.9	101	246	9.6	210	36	204	126	48	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	A
313	1.3	136	3.9	99	182	8.64	216	2	192	123	28	Elevated	Anterolateral wall MI	40	Not involved	NO	Not involved	NO	Involved	C
314	0.7	138	5.9	108	90	6.34	210	28	170	136	38	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	B
315	11	134	4.8	108	120	5.96	126	38	150	90	30	Elevated	Non-ST elevation MI	30	Not involved	NO	Not involved	NO	Involved	B
316	0.7	137	2.1	104	140	11.4	260	26	192	135	55	Normal	Normal	45	Not involved	NO	Not involved	NO	Involved	C
317	0.9	133	38	89	110	6.24	260	34	210	140	56	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Not involved	NO
318	0.6	135	4.5	102	420	14.6	210	30	180	116	30	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Involved	C
319	0.9	131	4.3	100	120	5.6	180	30	160	140	32	Normal	Normal	60	Not involved	NO	Involved	A	Not involved	NO
320	0.7	129	3.8	98	211	9.1	210	30	10	146	30	Elevated	Non-ST elevation MI	60	Not involved	NO	Not involved	NO	Involved	A
321	0.7	140	3.6	109	120	6.4	180	38	160	140	38	Normal	Normal	55	Not involved	NO	Involved	A	Not involved	NO
322	1	135	4.9	107	190	8.2	150	36	148	86	28	Normal	Normal	30	Not involved	NO	Involved	C	Not involved	NO
323	0.9	133	4.4	101	120	9.24	240	30	190	150	45	Elevated	Inferior wall MI	40	Not involved	NO	Involved	A	Involved	B
324	1.2	133	4.7	102	128	6.1	210	32	163	140	38	Normal	Normal	20	Not involved	NO	Involved	A	Involved	C
325	0.5	132	3.9	96	212	13.2	210	32	160	130	45	Elevated	Inferior wall MI	45	Not involved	NO	Not involved	NO	Not involved	NO
326	0.6	13	4.1	102	260	12.6	240	34	210	140	64	Elevated	Anterior inferior wall MI	45	Not involved	NO	Not involved	NO	Involved	C
327	0.7	137	4.4	98	82	5.62	160	38	140	82	28	Normal	Normal	60	Involved	A	Involved	A	Not involved	NO
328	0.7	135	4.2	98	142	5.78	200	35	148	86	30	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	B
329	1	134	3.8	99	216	7.8	240	35	186	117	52	Normal	Normal	60	Not involved	NO	Involved	C	Involved	B
330	1.2	137	4.7	105	109	6.24	112	38	142	89	23	Normal	Complete heart block	40	Involved	C	Involved	C	Involved	B
331	1.5	136	4.7	105	162	5.46	122	38	148	82	28	Elevated	Anterior inferior wall MI	45	Not involved	NO	Involved	A	Involved	C
332	0.8	139	4.4	104	160	6.32	210	28	172	130	38	Elevated	Non-ST elevation MI	35	Not involved	NO	Involved	B	Not involved	NO
333	0.6	137	4.1	104	210	8.96	210	20	190	132	30	Normal	Normal	40	Not involved	NO	Involved	C	Not involved	B
334	0.9	136	3.4	102	148	6.2	186	33	148	102	28	Elevated	Inferior wall MI	40	Not involved	NO	Involved	A	Not involved	NO
335	0.8	133	4.2	103	292	10.6	263	31	196	132	39	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	C

336	0.7	133	4	101	72	5.49	210	22	190	132	45	Elevated	Anterior wall MI	20	Not involved	NO	Involved	C	Involved	C
337	0.6	131	4.4	101	102	5.4	238	50	186	140	32	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Involved	B
338	0.6	139	3.5	107	182	6.35	186	38	148	98	28	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Not involved	NO
339	0.7	138	5	108	190	5.86	182	35	142	94	30	Elevated	Inferior wall MI	60	Not involved	NO	Not involved	NO	Not involved	NO
340	0.5	137	4.1	107	106	6.12	210	32	150	140	28	Normal	Normal	60	Not involved	NO	Involved	C	Not involved	NO
341	1.1	133	4.1	100	186	5.92	190	36	148	104	28	Elevated	Inferior wall MI	35	Not involved	NO	Not involved	NO	Involved	C
342	1.4	141	4.5	107	160	12.4	262	50	168	101	38	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Involved	B
343	0.6	132	4.7	100	219	8.96	260	30	160	148	30	Elevated	Anterior wall MI	45	Not involved	NO	Not involved	NO	Not involved	NO
344	1	139	4.6	109	128	5.37	180	44	89	80	28	Elevated	Inferior wall MI	50	Not involved	NO	Involved	A	Not involved	NO
345	1.1	139	4.7	107	120	5.89	200	30	128	149	34	Elevated	Inferior wall MI	45	Not involved	NO	Not involved	NO	Not involved	NO
346	0.8	138	4.4	103	148	5.89	180	35	142	92	30	Elevated	Inferior wall MI	50	Not involved	NO	Involved	C	Not involved	NO
347	0.9	137	3.9	101	140	5.67	220	34	140	140	30	Elevated	Inferior wall MI	40	Not involved	NO	Involved	A	Involved	B
348	1.2	136	4.6	102	209	11.2	240	30	180	140	30	Normal	SVT	55	Involved	C	Involved	B	Involved	B
349	0.5	136	4.8	103	460	14.9	186	32	210	140	45	Elevated	Non-ST elevation MI	45	Involved	A	Involved	B	Involved	B
350	0.9	134	3.9	103	120	5.64	180	38	130	96	32	Elevated	Anterior wall MI	20	Not involved	NO	Involved	C	Not involved	NO
351	0.8	133	4.8	99	184	7.24	210	30	180	132	45	Elevated	Anterior wall MI	25	Not involved	NO	Involved	C	Involved	B
352	0.8	135	4.9	104	110	5.6	212	50	222	110	45	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Not involved	NO
353	0.6	135	4.6	101	186	5.84	210	38	220	146	34	Elevated	Anterior septal wall MI	35	Not involved	NO	Involved	C	Not involved	NO
354	1.1	138	3.8	96	128	8.86	180	35	140	110	28	Elevated	Anterior wall MI	25	Not involved	NO	Involved	B	Involved	C
355	0.9	131	3.8	97	182	5.46	180	32	142	92	30	Elevated	Anterolateral wall MI	55	Not involved	NO	Involved	B	Not involved	NO
356	0.6	133	3.8	104	78	7.5	220	20	240	148	38	Elevated	Inferior wall MI	45	Not involved	NO	Involved	C	Involved	A
357	1.2	134	5	101	169	6.32	248	28	210	149	40	Elevated	Inferior wall MI	35	Involved	A	Involved	A	Involved	B
358	0.7	134	4.4	102	320	11.6	212	30	240	142	46	Elevated	Inferior wall MI	50	Not involved	NO	Involved	B	Not involved	NO
359	0.5	139	4.9	103	216	9.8	226	40	192	132	28	Elevated	Inferior wall MI	40	Not involved	NO	Not involved	NO	Not involved	NO
360	1	133	4.3	105	420	16.2	245	30	240	148	38	Elevated	Anterior wall MI	35	Not involved	NO	Involved	C	Not involved	NO
361	0.5	136	4	135	120	5.94	210	30	184	146	38	Normal	T INVERTIONS	60	Not involved	NO	Involved	C	Involved	C
362	0.9	141	3.3	107	64	5.62	180	35	125	98	30	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Not involved	NO
363	0.9	131	4.2	103	140	5.82	200	5	150	92	30	Elevated	Inferior wall MI	35	Not involved	NO	Not involved	NO	Not involved	NO
364	0.9	138	4.2	106	180	5.4	180	38	150	110	30	Elevated	Inferior wall MI	45	Not involved	NO	Not involved	NO	Not involved	NO
365	0.6	136	4.9	104	210	8.64	216	32	194	138	30	Normal	Normal	60	Not involved	NO	Involved	C	Involved	B
366	0.9	135	3.9	102	180	5.92	20	30	232	132	48	Normal	Normal	45	Not involved	NO	Involved	C	Not involved	NO
367	1.1	138	4.3	104	140	12.6	210	30	192	140	38	Elevated	Inferior wall MI	45	Not involved	NO	Involved	B	Not involved	NO
368	1	132	4.9	101	286	14.8	248	34	210	132	42	Elevated	Non-ST elevation MI	55	Not involved	NO	Involved	C	Involved	C
369	0.7	135	4.5	99	132	6.18	180	35	148	92	28	Normal	Normal	60	Not involved	NO	Involved	C	Not involved	NO
370	1	138	4.1	107	126	6.34	240	30	232	138	49	Elevated	Anterior wall MI	35	Not involved	NO	Involved	B	Involved	B
371	0.4	136	4.3	101	126	7.98	186	35	140	102	30	Elevated	Inferior wall MI	45	Not involved	NO	Involved	A	Involved	A
372	0.7	145	4.1	111	148	6.24	189	36	138	69	33	Elevated	Anterior wall MI	60	Not involved	NO	Involved	C	Involved	B
373	0.6	135	4.2	104	176	7.8	126	35	140	86	28	Elevated	Anterior wall MI	20	Not involved	NO	Involved	C	Not involved	NO

374	1.2	129	5	98	312	11.4	182	39.4	148	96	28.6	Normal	Normal	60	Not involved	NO	Involved	C	Involved	A
375	0.8	136	4.2	102	120	6.24	189	59	180	96	45	Elevated	Anterior wall MI	40	Not involved	NO	Involved	C	Involved	C
376	0.8	136	4.2	106	240	12.4	81	33	149	80	30	Normal	Normal	45	Not involved	NO	Involved	C	Involved	C
377	0.7	136	4.9	100	480	14.6	166	31	101	102	20	Normal	Normal	60	Not involved	NO	Involved	C	Involved	C
378	0.6	137	3.7	108	120	6.35	112	34	186	58	37	Elevated	Non-ST elevation MI	55	Not involved	NO	Involved	C	Involved	C
379	0.5	137	4.7	105	92	6.25	180	40	136	80	26.9	Normal	Normal	35	Involved	A	Involved	C	Involved	B
380	0.8	133	3.5	98	135	6.12	179	40	141	89	34	Elevated	Inferior wall MI	45	Not involved	NO	Involved	B	Involved	C
381	0.7	138	3.5	109	132	5.95	194	35	161	110	32	Elevated	Inferior wall MI	35	Not involved	NO	Involved	C	Involved	C
382	1	137	3.7	106	94	6.24	200	45	150	90	34	Elevated	Anterolateral wall MI	40	Not involved	NO	Involved	C	Not involved	NO
383	1	134	4	101	168	5.82	199	28	320	120	46	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	B
384	0.4	134	4.1	97	245	11.2	180	45	140	120	28	Elevated	Non-ST elevation MI	45	Not involved	NO	Involved	C	Involved	C
385	1.2	136	4.4	92	110	5.62	189	56	180	120	35	Elevated	Normal	55	Not involved	NO	Involved	A	Not involved	NO
386	0.4	135	4.3	103	230	8.5	220	24	180	120	40	Normal	Normal	40	Not involved	NO	Involved	A	Not involved	NO
387	1.1	138	3.8	105	120	6.35	180	45	145	86	30	Elevated	Anterior wall MI	45	Not involved	NO	Involved	C	Involved	B
388	0.8	137	4.4	105	186	5.6	180	38	148	58	30	Normal	Normal	50	Not involved	NO	Involved	A	Involved	C
389	0.6	134	3.9	98	226	8.94	250	35	200	120	45	Elevated	Inferolateral wall MI	48	Not involved	NO	Involved	B	Not involved	NO
390	1.2	137	5	103	290	13.8	320	60	156	120	35	Elevated	Anterior wall MI	30	Not involved	NO	Involved	C	Involved	B
391	0.7	138	4.9	104	140	5.96	210	45	180	120	45	Normal	Normal	40	Not involved	NO	Involved	A	Involved	A
392	1.1	136	3.2	105	150	5.68	240	45	180	130	40	Normal	Normal	55	Not involved	NO	Involved	C	Not involved	NO
393	0.9	139	3.8	107	158	5.86	230	50	180	140	40	Normal	Normal	60	Not involved	NO	Involved	B	Not involved	NO
394	0.5	130	3.7	99	234	11.26	290	35	190	130	60	Elevated	Inferolateral wall MI	45	Not involved	NO	Involved	A	Not involved	NO
395	0.4	122	3.9	89	162	6.24	202	39	140	120	40	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	A
396	0.5	135	4.4	103	168	5.78	230	45	230	135	40	Elevated	Inferolateral wall MI	45	Not involved	NO	Involved	C	Involved	A
397	0.9	135	3.7	105	160	6.35	180	45	170	135	30	Elevated	Inferior wall MI	45	Involved	C	Involved	C	Involved	A
398	0.7	132	4.7	99	198	12.6	180	39	136	53	26	Elevated	Inferior wall MI	40	Not involved	NO	Involved	C	Involved	A
399	0.6	138	4	104	118	5.65	145	28	201	130	40	Elevated	Inferior wall MI	45	Not involved	NO	Not involved	NO	Not involved	NO
400	0.5	138	3.4	105	134	6.45	230	52	240	150	35	Elevated	Non-ST elevation MI	55	Not involved	NO	Involved	B	Involved	A

Sno	RCA	RCA ACC/AHA grade	Final diagnosis	Treatment	HBA1C	Normal	Prediabetes	Diabetes	Hypertension	Hypothyroid	Dyslipidaemia	Ill habits	Final AHA/ABC class
1	Involved	C	Triple vessel disease	PTCA	6.45	No	Yes	No	Yes	No	No	No	High risk
2	Involved	C	Triple vessel disease	PTCA	7.5	No	No	Yes	Yes	No	No	No	High risk
3	Involved	C	Double vessel disease	CABG	8.2	No	No	Yes	Yes	No	No	SMOKER,ALCOHOLIC	High risk
4	Involved	C	Double vessel disease	PTCA	5.9	No	Yes	No	No	No	No	SMOKER	Moderate risk
5	Not involved	NO	Double vessel disease	PTCA	5.8	No	Yes	No	Yes	No	No	No	High risk
6	Involved	C	Triple vessel disease	PTCA	7.2	No	No	Yes	Yes	No	No	SMOKER,ALCOHOLIC	High risk
7	Involved	B	Triple vessel disease	PTCA	8	No	No	Yes	Yes	No	No	No	High risk
8	Not involved	NO	Single vessel disease	OMT	5.6	Yes	No	No	No	No	No	SMOKER	Moderate risk
9	Involved	A	Triple vessel disease	PTCA	9.2	No	No	Yes	Yes	No	Yes	SMOKER	High risk
10	Involved	C	Triple vessel disease	PTCA	6	No	Yes	No	No	No	Yes	No	High risk
11	Involved	C	Triple vessel disease	PTCA	6.2	No	Yes	No	No	No	Yes	No	High risk
12	Not involved	NO	Single vessel disease	OMT	5.4	Yes	No	No	No	No	Yes	No	Low risk
13	Not involved	NO	Single vessel disease	PTCA	5.6	Yes	No	No	Yes	No	No	ALCOHOLIC	High risk
14	Involved	A	Triple vessel disease	PTCA	7.34	No	No	Yes	No	Yes	No	No	Moderate risk
15	Not involved	NO	Single vessel disease	PTCA	5.65	Yes	No	No	No	No	No	SMOKER	High risk
16	Not involved	NO	Single vessel disease	PTCA	5.5	Yes	No	No	No	No	Yes	BETEL NUT	Moderate risk
17	Involved	B	Triple vessel disease	PTCA	5.67	Yes	No	No	Yes	No	No	No	High risk
18	Involved	B	Triple vessel disease	PTCA	7.95	No	No	Yes	No	No	Yes	No	Moderate risk
19	Involved	B	Double vessel disease	PTCA	5.67	Yes	No	No	Yes	No	Yes	SMOKER	High risk
20	Not involved	NO	Single vessel disease	OMT	7.2	No	No	Yes	No	No	Yes	SMOKER	Moderate risk
21	Not involved	NO	Single vessel disease	PTCA	6.7	No	No	Yes	Yes	No	Yes	No	Moderate risk
22	Not involved	NO	Single vessel disease	PTCA	6.8	No	No	Yes	Yes	No	Yes	SMOKER	High risk
23	Involved	C	Triple vessel disease	PTCA	8.67	No	No	Yes	Yes	No	Yes	No	High risk
24	Not involved	NO	Single vessel disease	PTCA	6.8	No	No	Yes	No	No	No	No	High risk
25	Involved	C	Single vessel disease	PTCA	5.6	Yes	No	No	No	No	No	SMOKER	High risk
26	Involved	C	Triple vessel disease	PTCA	6.2	No	No	Yes	No	No	Yes	No	High risk
27	Not involved	NO	Single vessel disease	PTCA	5.7	No	Yes	No	No	No	No	No	High risk
28	Involved	C	Double vessel disease	PTCA	5.89	No	Yes	No	No	No	No	SMOKER	Moderate risk
29	Not involved	NO	Single vessel disease	OMT	5.47	Yes	No	No	No	No	No	No	Moderate risk

30	Not involved	NO	Single vessel disease	OMT	6.5	No	No	Yes	Yes	No	Yes	No	Moderate risk
31	Involved	B	Double vessel disease	PTCA	6.24	No	No	Yes	Yes	No	Yes	SMOKER	High risk
32	Involved	C	Triple vessel disease	PTCA	5.67	Yes	No	No	Yes	No	No	SMOKER	High risk
33	Not involved	NO	Double vessel disease	PTCA	8.37	No	No	Yes	Yes	No	No	No	High risk
34	Involved	C	Triple vessel disease	PTCA	5.75	No	Yes	No	No	No	No	No	High risk
35	Involved	A	Single vessel disease	PTCA	5.45	Yes	No	No	No	No	No	No	High risk
36	Not involved	NO	Single vessel disease	OMT	5.67	Yes	No	No	No	No	Yes	No	Moderate risk
37	Involved	B	Triple vessel disease	PTCA	9.2	No	No	Yes	Yes	No	Yes	No	High risk
38	Not involved	NO	Single vessel disease	OMT	5.68	Yes	No	No	No	No	No	SMOKER	Low risk
39	Involved	B	Triple vessel disease	PTCA	8.67	No	No	Yes	Yes	No	Yes	No	High risk
40	Involved	C	Triple vessel disease	PTCA	6.75	No	No	Yes	Yes	No	No	No	High risk
41	Not involved	NO	Double vessel disease	PTCA	6.84	No	No	Yes	Yes	No	No	No	High risk
42	Involved	A	Triple vessel disease	PTCA	5.9	No	Yes	No	No	No	Yes	No	High risk
43	Not involved	NO	Single vessel disease	PTCA	5.56	No	Yes	No	Yes	No	No	No	High risk
44	Involved	A	Triple vessel disease	PTCA	7.45	No	No	Yes	No	No	No	No	High risk
45	Involved	A	Triple vessel disease	OMT	7.65	No	No	Yes	No	No	No	No	Low risk
46	Involved	B	Triple vessel disease	PTCA	9.6	No	No	Yes	No	No	Yes	No	High risk
47	Not involved	NO	Single vessel disease	PTCA	5.45	Yes	No	No	No	No	No	No	High risk
48	Not involved	NO	Triple vessel disease	PTCA	8.94	No	No	Yes	No	No	No	No	High risk
49	Involved	A	Double vessel disease	PTCA	5.62	Yes	No	No	Yes	No	No	No	High risk
50	Not involved	NO	Single vessel disease	PTCA	5.68	Yes	No	No	No	No	No	SMOKER,ALCOHOLIC	High risk
51	Not involved	NO	Single vessel disease	PTCA	5.4	Yes	No	No	No	No	Yes	No	High risk
52	Involved	C	Triple vessel disease	PTCA	5.84	No	Yes	No	Yes	No	No	SMOKER,ALCOHOLIC	High risk
53	Involved	B	Triple vessel disease	OMT	6.74	No	No	Yes	No	No	Yes	No	Moderate risk
54	Involved	A	Double vessel disease	PTCA	5.34	Yes	No	No	No	No	No	No	High risk
55	Involved	C	Double vessel disease	PTCA	5.28	Yes	No	No	Yes	No	No	No	High risk
56	Involved	B	Single vessel disease	OMT	5.5	Yes	No	No	No	No	Yes	No	Moderate risk
57	Involved	C	Triple vessel disease	PTCA	4.45	Yes	No	No	No	No	No	No	High risk
58	Involved	B	Double vessel disease	PTCA	8.65	No	No	Yes	Yes	No	No	No	Moderate risk
59	Involved	B	Double vessel disease	PTCA	6.75	No	No	Yes	No	No	No	SMOKER	High risk
60	Involved	C	Triple vessel disease	PTCA	5.95	No	Yes	No	Yes	No	No	SMOKER	High risk
61	Involved	C	Single vessel disease	PTCA	6.1	No	Yes	No	No	No	Yes	No	High risk
62	Involved	B	Triple vessel disease	PTCA	8.2	No	No	Yes	Yes	No	No	No	High risk
63	Not involved	NO	Single vessel disease	PTCA	5.8	No	Yes	No	Yes	No	No	No	High risk
64	Not involved	NO	Single vessel disease	OMT	5.34	Yes	No	No	Yes	No	No	SMOKER,ALCOHOLIC	Low risk
65	Not involved	NO	Single vessel disease	OMT	5.5	Yes	No	No	No	No	No	No	Low risk
66	Involved	C	Triple vessel disease	PTCA	6.9	No	No	Yes	No	No	No	No	High risk
67	Involved	C	Triple vessel disease	PTCA	8.4	No	No	Yes	No	No	Yes	No	High risk

68	Not involved	NO	Double vessel disease	PTCA	5.7	No	Yes	No	No	No	No	No	High risk
69	Involved	C	Single vessel disease	CABG	5.8	No	Yes	No	No	No	No	SMOKER	High risk
70	Not involved	NO	Single vessel disease	PTCA	5.7	No	Yes	No	No	No	No	No	High risk
71	Not involved	NO	Single vessel disease	PTCA	6.5	No	No	Yes	No	No	No	No	High risk
72	Not involved	NO	Single vessel disease	PTCA	6.5	No	No	Yes	No	No	No	No	High risk
73	Not involved	NO	Double vessel disease	PTCA	5.4	Yes	No	No	No	No	No	No	High risk
74	Involved	B	Triple vessel disease	PTCA	9.2	No	No	Yes	No	No	Yes	No	High risk
75	Involved	A	Single vessel disease	PTCA	4.5	Yes	No	No	No	No	No	No	High risk
76	Involved	C	Double vessel disease	PTCA	9.04	No	No	Yes	Yes	No	No	No	High risk
77	Not involved	NO	Single vessel disease	PTCA	5.8	No	Yes	No	No	No	Yes	No	High risk
78	Involved	C	Triple vessel disease	OMT	8.5	No	No	Yes	No	No	No	No	High risk
79	Not involved	NO	Single vessel disease	OMT	5.5	Yes	No	No	No	No	Yes	No	Low risk
80	Involved	C	Triple vessel disease	PTCA	5.8	No	Yes	No	No	No	No	SMOKER,ALCOHOLIC	High risk
81	Not involved	NO	Single vessel disease	OMT	5.34	Yes	No	No	No	No	Yes	SMOKER	Moderate risk
82	Involved	C	Double vessel disease	PTCA	6.9	No	No	Yes	No	No	No	No	High risk
83	Not involved	NO	Single vessel disease	PTCA	6.5	No	No	Yes	Yes	No	Yes	No	High risk
84	Not involved	NO	Single vessel disease	OMT	6.2	No	Yes	No	No	No	No	No	Low risk
85	Involved	A	Single vessel disease	PTCA	5.45	Yes	No	No	No	No	No	SMOKER	High risk
86	Not involved	NO	Single vessel disease	OMT	8.3	No	No	Yes	Yes	No	No	No	Low risk
87	Involved	C	Triple vessel disease	PTCA	9.24	No	No	Yes	No	No	No	No	High risk
88	Involved	C	Triple vessel disease	PTCA	10.2	No	No	Yes	Yes	No	Yes	No	High risk
89	Involved	A	CABG	PTCA	6.1	No	Yes	No	No	No	No	No	High risk
90	Involved	A	Double vessel disease	PTCA	6.78	No	No	Yes	No	No	Yes	No	High risk
91	Involved	C	Triple vessel disease	PTCA	11.4	No	No	Yes	No	No	No	No	High risk
92	Involved	C	Double vessel disease	PTCA	5.45	No	No	No	No	No	No	SMOKER	High risk
93	Involved	C	Triple vessel disease	PTCA	5.49	Yes	No	No	Yes	No	No	No	High risk
94	Not involved	NO	Double vessel disease	PTCA	9.45	No	No	Yes	Yes	No	No	No	High risk
95	Not involved	NO	Double vessel disease	PTCA	8.45	No	No	Yes	Yes	No	No	No	High risk
96	Involved	C	Triple vessel disease	PTCA	6.24	No	Yes	No	No	No	No	No	High risk
97	Involved	A	Single vessel disease	PTCA	4.56	Yes	No	No	No	No	No	No	High risk
98	Not involved	NO	Single vessel disease	PTCA	5.78	No	Yes	No	Yes	No	No	No	High risk
99	Involved	C	Triple vessel disease	CABG	11.25	No	No	Yes	Yes	No	Yes	No	High risk
100	Involved	C	Triple vessel disease	PTCA	5.34	Yes	No	No	No	No	No	No	High risk
101	Involved	A	Single vessel disease	PTCA	6.64	No	No	Yes	Yes	No	No	No	High risk
102	Involved	C	Triple vessel disease	CABG	6.9	No	No	Yes	Yes	No	No	No	High risk
103	Involved	C	Triple vessel disease	CABG	7.35	No	No	Yes	No	No	No	No	High risk
104	Involved	C	Double vessel disease	PTCA	6.9	No	No	Yes	No	No	No	No	High risk
105	Not involved	NO	Single vessel disease	PTCA	5.7	No	Yes	No	Yes	No	No	No	High risk

106	Involved	A	Double vessel disease	PTCA	6.7	No	No	Yes	Yes	No	No	No	High risk
107	Involved	C	Double vessel disease	PTCA	7.2	No	No	Yes	No	No	No	No	High risk
108	Not involved	NO	Single vessel disease	PTCA	5.64	Yes	No	No	No	No	Yes	No	High risk
109	Involved	B	Double vessel disease	OMT	7.2	No	No	Yes	Yes	No	Yes	No	Moderate risk
110	Not involved	NO	Single vessel disease	PTCA	8.45	No	No	Yes	No	No	No	Yes	High risk
111	Involved	A	Single vessel disease	PTCA	6.9	No	No	Yes	No	No	Yes	No	High risk
112	Involved	C	Double vessel disease	PTCA	6.2	No	Yes	No	No	No	No	SMOKER,ALCOHOLIC	High risk
113	Not involved	NO	Single vessel disease	PTCA	7.1	No	No	Yes	No	No	No	SMOKER,ALCOHOLIC	High risk
114	Not involved	NO	Single vessel disease	PTCA	7.9	No	No	Yes	No	No	Yes	No	High risk
115	Not involved	NO	Single vessel disease	PTCA	6.9	No	No	Yes	No	No	Yes	No	High risk
116	Involved	A	Double vessel disease	OMT	5.4	Yes	No	No	No	No	Yes	SMOKER	Low risk
117	Involved	B	Triple vessel disease	PTCA	10.2	No	No	Yes	Yes	No	Yes	No	High risk
118	Not involved	NO	Single vessel disease	OMT	6.2	No	Yes	No	No	No	Yes	No	Low risk
119	Not involved	NO	Single vessel disease	PTCA	8.2	No	No	Yes	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
120	Involved	A	Double vessel disease	OMT	6.7	No	No	Yes	Yes	No	No	No	Low risk
121	Involved	C	Double vessel disease	CABG	8.4	No	No	Yes	Yes	No	Yes	No	High risk
122	Not involved	NO	Single vessel disease	PTCA	7.2	No	No	Yes	Yes	No	No	No	High risk
123	Involved	C	Double vessel disease	PTCA	7.01	No	No	Yes	Yes	No	No	No	High risk
124	Not involved	NO	Double vessel disease	PTCA	6.35	No	Yes	No	Yes	No	No	No	High risk
125	Not involved	NO	Single vessel disease	PTCA	5.65	Yes	No	No	No	No	Yes	No	High risk
126	Not involved	NO	Single vessel disease	PTCA	10.4	No	No	Yes	Yes	No	Yes	No	High risk
127	Not involved	NO	Single vessel disease	PTCA	5.89	No	Yes	No	No	No	No	No	High risk
128	Involved	C	Triple vessel disease	PTCA	6.24	No	Yes	No	Yes	No	No	No	High risk
129	Involved	C	Single vessel disease	PTCA	8.24	No	No	Yes	Yes	No	Yes	No	High risk
130	Involved	C	Triple vessel disease	PTCA	7.65	No	No	Yes	No	No	Yes	No	High risk
131	Not involved	NO	Single vessel disease	PTCA	5.68	Yes	No	No	Yes	No	No	No	High risk
132	Not involved	NO	Single vessel disease	PTCA	6.8	No	No	Yes	Yes	No	Yes	No	High risk
133	Not involved	NO	Single vessel disease	PTCA	6.12	No	Yes	No	No	No	Yes	SMOKER	High risk
134	Involved	B	Double vessel disease	PTCA	9.2	No	No	Yes	No	No	Yes	No	High risk
135	Involved	C	Single vessel disease	PTCA	6.1	No	Yes	No	No	No	No	SMOKER,ALCOHOLIC	High risk
136	Involved	C	Triple vessel disease	PTCA	5.68	Yes	No	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
137	Involved	A	Minor coronary artery disease	OMT	5.98	No	Yes	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
138	Involved	C	Triple vessel disease	PTCA	5.35	Yes	No	No	No	No	Yes	SMOKER	Low risk
139	Not involved	NO	Single vessel disease	PTCA	5.64	Yes	No	No	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
140	Not involved	NO	Single vessel disease	PTCA	5.68	Yes	No	No	Yes	No	Yes	SMOKER	High risk
141	Involved	C	Single vessel disease	PTCA	8.2	No	No	Yes	No	No	Yes	SMOKER,ALCOHOLIC	High risk
142	Not involved	NO	Minor coronary artery disease	OMT	7.12	No	No	Yes	No	No	No	No	Low risk
143	Involved	C	Double vessel disease	PTCA	9.2	No	No	Yes	Yes	No	Yes	No	High risk

144	Involved	C	Single vessel disease	PTCA	5.45	Yes	No	No	No	No	Yes	SMOKER	High risk
145	Not involved	NO	Single vessel disease	OMT	6.24	No	Yes	No	No	No	No	No	High risk
146	Not involved	NO	Single vessel disease	PTCA	6.98	No	No	Yes	Yes	No	Yes	No	High risk
147	Not involved	NO	Single vessel disease	PTCA	5.43	No	No	No	No	No	No	No	High risk
148	Not involved	NO	Minor coronary artery disease	OMT	6.1	No	Yes	No	Yes	No	No	No	Low risk
149	Not involved	NO	Double vessel disease	PTCA	8.78	No	No	Yes	Yes	No	Yes	No	High risk
150	Involved	C	Single vessel disease	PTCA	6.45	No	Yes	No	No	No	No	No	High risk
151	Involved	A	Single vessel disease	PTCA	5.34	Yes	No	No	No	No	Yes	SMOKER	High risk
152	Involved	C	Single vessel disease	PTCA	10.86	No	No	Yes	Yes	No	Yes	No	High risk
153	Not involved	NO	Minor coronary artery disease	OMT	6.1	No	Yes	No	Yes	No	No	No	Low risk
154	Not involved	NO	Minor coronary artery disease	OMT	5.45	Yes	No	No	Yes	No	No	No	High risk
155	Involved	C	Double vessel disease	PTCA	5.64	Yes	No	No	No	No	Yes	No	Low risk
156	Not involved	NO	Double vessel disease	PTCA	12	No	No	Yes	Yes	No	Yes	No	High risk
157	Not involved	NO	Single vessel disease	PTCA	6.1	No	Yes	No	Yes	No	No	SMOKER	High risk
158	Not involved	NO	Single vessel disease	PTCA	7.84	No	No	Yes	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
159	Involved	A	Minor coronary artery disease	OMT	5.98	No	Yes	No	No	No	Yes	No	Low risk
160	Not involved	NO	Single vessel disease	PTCA	5.38	Yes	No	No	Yes	No	Yes	SMOKER	High risk
161	Involved	A	Double vessel disease	OMT	6.9	No	No	Yes	Yes	No	Yes	ALCOHOLIC	High risk
162	Involved	A	Single vessel disease	PTCA	8.98	No	No	Yes	No	No	Yes	SMOKER,ALCOHOLIC	High risk
163	Involved	C	Double vessel disease	PTCA	12.82	No	No	Yes	Yes	No	Yes	No	High risk
164	Involved	A	Double vessel disease	PTCA	5.45	Yes	No	No	Yes	No	No	No	High risk
165	Involved	C	Triple vessel disease	PTCA	6.92	No	No	Yes	No	No	No	No	High risk
166	Not involved	NO	Double vessel disease	OMT	6.28	No	Yes	No	No	No	No	SMOKER,ALCOHOLIC	Low risk
167	Involved	A	Triple vessel disease	PTCA	8.2	No	No	Yes	Yes	Yes	Yes	No	High risk
168	Involved	C	Triple vessel disease	CABG	9.2	No	No	Yes	Yes	No	Yes	No	High risk
169	Involved	C	Double vessel disease	PTCA	11.1	No	No	Yes	No	No	Yes	No	High risk
170	Involved	C	Double vessel disease	PTCA	5.45	Yes	No	No	Yes	No	Yes	SMOKER	High risk
171	Not involved	NO	Minor coronary artery disease	OMT	10.6	No	No	Yes	Yes	No	Yes	No	Low risk
172	Not involved	NO	Minor coronary artery disease	OMT	6.89	No	No	Yes	Yes	No	Yes	No	Low risk
173	Not involved	NO	Double vessel disease	PTCA	5.12	Yes	No	No	No	No	No	SMOKER,ALCOHOLIC	High risk
174	Involved	A	Triple vessel disease	PTCA	5.67	Yes	No	No	Yes	No	No	No	High risk
175	Involved	C	Double vessel disease	PTCA	8.96	No	No	Yes	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
176	Involved	C	Single vessel disease	PTCA	6.2	No	Yes	No	No	No	No	SMOKER,ALCOHOLIC	High risk
177	Involved	C	Critical triple vessel disease	CABG	6.98	No	No	Yes	No	No	Yes	No	High risk
178	Involved	C	Triple vessel disease	PTCA	13.24	No	No	Yes	Yes	No	Yes	No	High risk
179	Involved	B	Single vessel disease	OMT	5.5	Yes	No	No	No	No	No	SMOKER	Moderate risk
180	Involved	C	Triple vessel disease	PTCA	7.9	No	No	Yes	Yes	No	Yes	No	High risk
181	Involved	C	Double vessel disease	PTCA	5.14	Yes	No	No	No	No	No	No	High risk

182	Not involved	NO	Single vessel disease	PTCA	5.87	No	Yes	No	No	No	Yes	SMOKER	High risk
183	Not involved	NO	Single vessel disease	PTCA	5.68	Yes	No	No	No	No	Yes	ALCOHOLIC	High risk
184	Involved	B	Double vessel disease	PTCA	7.2	No	No	Yes	No	No	Yes	No	High risk
185	Involved	A	Double vessel disease	PTCA	5.67	Yes	No	No	No	No	No	SMOKER	High risk
186	Not involved	NO	Double vessel disease	CABG	6.23	No	Yes	No	No	No	Yes	No	High risk
187	Involved	A	Minor coronary artery disease	OMT	9.45	No	No	Yes	Yes	No	No	No	Low risk
188	Not involved	NO	Minor coronary artery disease	OMT	5.34	Yes	No	No	No	No	No	No	Low risk
189	Involved	C	Double vessel disease	PTCA	5.49	Yes	No	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
190	Involved	C	Double vessel disease	PTCA	6.4	No	Yes	No	No	No	No	SMOKER,ALCOHOLIC	High risk
191	Not involved	NO	Minor coronary artery disease	OMT	9.2	No	No	Yes	No	No	Yes	No	Low risk
192	Involved	C	Double vessel disease	PTCA	10.87	No	No	Yes	Yes	No	Yes	SMOKER	High risk
193	Not involved	NO	Single vessel disease	PTCA	5.45	Yes	No	No	No	No	No	No	High risk
194	Involved	C	Single vessel disease	PTCA	5.98	No	Yes	No	No	No	Yes	No	High risk
195	Involved	A	Single vessel disease	PTCA	10.5	No	No	Yes	Yes	No	Yes	No	High risk
196	Involved	C	Double vessel disease	PTCA	10.94	No	No	Yes	No	No	Yes	No	High risk
197	Not involved	NO	Single vessel disease	PTCA	5.65	Yes	No	No	No	No	Yes	No	High risk
198	Not involved	NO	Triple vessel disease	CABG	9.64	No	No	Yes	No	No	No	SMOKER,ALCOHOLIC	High risk
199	Involved	C	Single vessel disease	PTCA	6.2	No	Yes	No	No	No	No	SMOKER	High risk
200	Not involved	NO	Double vessel disease	PTCA	7.45	No	No	Yes	No	No	Yes	No	High risk
201	Involved	C	Triple vessel disease	PTCA	7.1	No	No	Yes	No	No	Yes	No	High risk
202	Not involved	NO	Double vessel disease	CABG	5.4	Yes	No	No	No	No	No	No	High risk
203	Involved	A	Single vessel disease	PTCA	5.8	No	Yes	No	No	No	Yes	No	High risk
204	Not involved	NO	Double vessel disease	PTCA	6.25	No	Yes	No	No	No	Yes	No	High risk
205	Involved	B	Triple vessel disease	PTCA	8.2	No	No	Yes	Yes	No	No	No	High risk
206	Not involved	NO	Single vessel disease	OMT	7.8	No	No	Yes	Yes	No	Yes	No	Low risk
207	Involved	C	Critical triple vessel disease	CABG	6.2	No	Yes	No	Yes	No	Yes	SMOKER	High risk
208	Involved	C	Double vessel disease	PTCA	10	No	No	Yes	No	No	Yes	No	High risk
209	Not involved	NO	Single vessel disease	PTCA	9.6	No	No	Yes	No	No	Yes	No	High risk
210	Not involved	NO	Double vessel disease	PTCA	7.9	No	No	Yes	No	No	Yes	No	High risk
211	Involved	B	Double vessel disease	PTCA	8.2	No	No	Yes	No	No	Yes	No	High risk
212	Involved	B	Double vessel disease	PTCA	6.2	No	Yes	No	No	No	No	No	High risk
213	Not involved	NO	Double vessel disease	PTCA	5.8	No	Yes	No	No	No	Yes	No	High risk
214	Involved	C	Single vessel disease	PTCA	9.8	No	No	Yes	No	No	Yes	SMOKER	High risk
215	Involved	A	Single vessel disease	OMT	5.9	No	Yes	No	No	No	Yes	No	Moderate risk
216	Not involved	NO	Single vessel disease	PTCA	9.2	No	No	Yes	No	No	Yes	No	High risk
217	Not involved	NO	Single vessel disease	PTCA	10.4	No	No	Yes	No	No	Yes	No	High risk
218	Involved	A	Double vessel disease	PTCA	8.9	No	No	Yes	Yes	No	Yes	No	High risk
219	Involved	C	Triple vessel disease	PTCA	11.2	No	No	Yes	No	No	Yes	No	High risk

220	Not involved	NO	Single vessel disease	PTCA	6.2	No	Yes	No	Yes	No	Yes	No	High risk
221	Involved	A	Minor coronary artery disease	OMT	10.4	No	No	Yes	Yes	No	Yes	No	Low risk
222	Involved	C	Triple vessel disease	CABG	6.35	No	Yes	No	Yes	No	No	No	High risk
223	Not involved	NO	Single vessel disease	PTCA	5.58	Yes	No	No	Yes	No	Yes	No	High risk
224	Involved	C	Triple vessel disease	CABG	10.6	No	No	Yes	Yes	No	Yes	No	High risk
225	Involved	C	Double vessel disease	PTCA	9.6	No	No	Yes	Yes	No	Yes	No	High risk
226	Involved	C	Double vessel disease	PTCA	9.2	No	No	Yes	Yes	No	Yes	No	High risk
227	Involved	C	Triple vessel disease	CABG	6.9	No	No	Yes	No	No	No	No	High risk
228	Not involved	NO	Minor coronary artery disease	OMT	5.67	Yes	No	No	Yes	No	Yes	SMOKER	Low risk
229	Involved	B	Triple vessel disease	CABG	6.28	No	Yes	No	Yes	No	No	No	High risk
230	Involved	A	Double vessel disease	CABG	11.2	No	No	Yes	Yes	No	Yes	No	High risk
231	Involved	C	Double vessel disease	PTCA	9.2	No	No	Yes	No	No	No	No	High risk
232	Not involved	NO	Single vessel disease	PTCA	5.24	No	Yes	No	No	No	Yes	No	High risk
233	Not involved	NO	Double vessel disease	PTCA	8.6	No	No	Yes	Yes	No	Yes	No	High risk
234	Involved	C	Single vessel disease	PTCA	4	Yes	No	No	No	No	Yes	No	High risk
235	Not involved	NO	Single vessel disease	PTCA	6.24	No	Yes	No	No	No	Yes	No	High risk
236	Involved	C	Triple vessel disease	CABG	9.68	No	No	Yes	No	No	Yes	No	High risk
237	Involved	A	Double vessel disease	OMT	9.3	No	No	Yes	Yes	No	Yes	No	Moderate risk
238	Not involved	NO	Single vessel disease	OMT	5.6	Yes	No	No	Yes	No	Yes	SMOKER	Moderate risk
239	Involved	B	Triple vessel disease	PTCA	11.2	No	No	Yes	Yes	No	Yes	No	High risk
240	Not involved	NO	Double vessel disease	PTCA	6.8	No	No	Yes	Yes	No	Yes	No	High risk
241	Involved	A	Single vessel disease	PTCA	9.4	No	No	Yes	No	No	No	No	High risk
242	Not involved	NO	Single vessel disease	PTCA	5.28	Yes	No	No	Yes	No	Yes	No	High risk
243	Involved	A	Single vessel disease	OMT	5.69	Yes	No	No	Yes	No	Yes	No	Moderate risk
244	Involved	A	Double vessel disease	PTCA	10.64	No	No	Yes	No	No	Yes	No	Moderate risk
245	Involved	B	Triple vessel disease	CABG	11.63	No	No	Yes	No	No	No	No	High risk
246	Not involved	NO	Double vessel disease	PTCA	12.32	No	No	Yes	Yes	No	Yes	No	High risk
247	Not involved	NO	Single vessel disease	PTCA	5.24	Yes	No	No	Yes	No	No	No	High risk
248	Not involved	NO	Single vessel disease	PTCA	7.38	No	No	Yes	Yes	No	No	SMOKER	High risk
249	Involved	C	Single vessel disease	PTCA	5.4	Yes	No	No	No	No	Yes	No	High risk
250	Not involved	A	Single vessel disease	PTCA	5.6	Yes	No	No	No	No	Yes	No	High risk
251	Involved	C	Single vessel disease	PTCA	5.48	Yes	No	No	No	No	No	SMOKER	High risk
252	Not involved	NO	Double vessel disease	PTCA	13.6	No	No	Yes	Yes	No	No	No	High risk
253	Not involved	NO	Single vessel disease	PTCA	5.24	Yes	No	No	Yes	No	No	No	High risk
254	Not involved	NO	Single vessel disease	PTCA	5.64	Yes	No	No	No	No	Yes	No	High risk
255	Involved	C	Triple vessel disease	PTCA	12.2	No	No	Yes	No	No	Yes	No	High risk
256	Involved	C	Double vessel disease	PTCA	5.6	Yes	No	No	Yes	No	Yes	No	High risk
257	Involved	C	Triple vessel disease	PTCA	9.34	No	No	Yes	Yes	No	No	No	High risk

258	Involved	C	Triple vessel disease	PTCA	6.36	No	Yes	No	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
259	Involved	C	Triple vessel disease	PTCA	6.12	No	Yes	No	Yes	No	No	SMOKER	High risk
260	Not involved	NO	Single vessel disease	PTCA	5.45	Yes	No	No	Yes	No	No	No	High risk
261	Involved	B	Single vessel disease	OMT	8.9	No	No	Yes	No	No	No	No	Moderate risk
262	Involved	C	Triple vessel disease	PTCA	10.8	No	No	Yes	No	No	Yes	SMOKER	High risk
263	Involved	C	Double vessel disease	PTCA	9.2	No	No	Yes	No	No	No	SMOKER	High risk
264	Involved	C	Double vessel disease	PTCA	5.46	Yes	No	No	No	No	Yes	SMOKER	High risk
265	Not involved	NO	Single vessel disease	PTCA	6.7	No	No	Yes	No	No	No	SMOKER,ALCOHOLIC	Moderate risk
266	Involved	C	Single vessel disease	PTCA	5.58	Yes	No	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
267	Involved	B	Single vessel disease	OMT	8.9	No	No	Yes	No	No	No	No	Moderate risk
268	Involved	C	Triple vessel disease	CABG	10.28	No	No	Yes	No	No	Yes	No	High risk
269	Involved	C	Double vessel disease	PTCA	9.6	No	No	Yes	Yes	No	No	No	High risk
270	Not involved	NO	Single vessel disease	PTCA	5.6	Yes	No	No	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
271	Involved	C	Triple vessel disease	PTCA	6.34	No	Yes	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
272	Not involved	NO	Minor coronary artery disease	OMT	8.4	No	No	Yes	No	No	No	No	Low risk
273	Involved	A	Triple vessel disease	PTCA	8.8	No	No	Yes	No	No	Yes	No	High risk
274	Involved	C	Double vessel disease	PTCA	14.2	No	No	Yes	Yes	No	Yes	No	High risk
275	Not involved	NO	Single vessel disease	PTCA	12.6	No	No	Yes	Yes	No	No	No	High risk
276	Involved	B	Double vessel disease	PTCA	8.5	No	No	Yes	No	No	Yes	SMOKER,ALCOHOLIC	Moderate risk
277	Involved	C	Critical triple vessel disease	CABG	14.5	No	No	Yes	No	No	Yes	No	High risk
278	Involved	B	Double vessel disease	PTCA	8.9	No	No	Yes	No	No	Yes	No	High risk
279	Involved	C	Double vessel disease	PTCA	11.34	No	No	Yes	No	No	Yes	SMOKER,ALCOHOLIC	High risk
280	Involved	C	Double vessel disease	PTCA	7.9	No	No	Yes	No	No	No	No	High risk
281	Involved	C	Triple vessel disease	PTCA	5.34	Yes	No	No	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
282	Involved	C	Triple vessel disease	PTCA	9.3	No	No	Yes	Yes	No	No	No	High risk
283	Not involved	NO	Single vessel disease	PTCA	6.24	No	Yes	No	No	No	Yes	SMOKER	High risk
284	Involved	C	Critical triple vessel disease	CABG	10.54	No	No	Yes	Yes	No	No	No	High risk
285	Involved	C	Triple vessel disease	PTCA	5.38	Yes	No	No	Yes	No	Yes	SMOKER	High risk
286	Involved	A	Minor coronary artery disease	OMT	8.95	No	No	Yes	Yes	No	Yes	SMOKER,ALCOHOLIC	Low risk
287	Involved	B	Triple vessel disease	PTCA	5.42	Yes	No	No	No	No	Yes	ALCOHOLIC	High risk
288	Involved	B	Double vessel disease	OMT	7.6	No	No	Yes	Yes	No	Yes	No	Moderate risk
289	Involved	C	Triple vessel disease	PTCA	5.38	Yes	No	No	No	No	No	No	High risk
290	Not involved	NO	Minor coronary artery disease	OMT	10.8	No	No	Yes	Yes	No	No	No	Low risk
291	Not involved	NO	Single vessel disease	PTCA	9.8	No	No	Yes	No	No	Yes	SMOKER,ALCOHOLIC	High risk
292	Not involved	NO	Single vessel disease	PTCA	8.8	No	No	Yes	Yes	No	No	No	High risk
293	Not involved	NO	Single vessel disease	PTCA	5.26	Yes	No	No	No	No	No	SMOKER,ALCOHOLIC	High risk
294	Involved	B	Triple vessel disease	PTCA	9.2	No	No	Yes	Yes	No	No	SMOKER	High risk
295	Involved	C	Triple vessel disease	PTCA	6.24	No	Yes	No	No	No	Yes	SMOKER	High risk

296	Not involved	NO	Single vessel disease	PTCA	6.9	No	No	Yes	Yes	No	No	No	High risk
297	Involved	B	Double vessel disease	OMT	7.18	No	No	Yes	Yes	No	No	SMOKER,ALCOHOLIC	Moderate risk
298	Not involved	NO	Single vessel disease	PTCA	8.5	No	No	Yes	No	No	Yes	SMOKER	High risk
299	Not involved	NO	Single vessel disease	PTCA	5.8	No	Yes	No	No	No	No	SMOKER	High risk
300	Involved	C	Triple vessel disease	CABG	13.3	No	No	Yes	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
301	Not involved	NO	Single vessel disease	OMT	5.64	Yes	No	No	No	No	No	No	Low risk
302	Involved	C	Triple vessel disease	PTCA	9.4	No	No	Yes	Yes	No	Yes	No	High risk
303	Involved	C	Double vessel disease	PTCA	5.9	No	Yes	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
304	Involved	A	Double vessel disease	PTCA	8.48	No	No	Yes	No	No	No	SMOKER	High risk
305	Involved	C	Triple vessel disease	PTCA	9.89	No	No	Yes	No	No	Yes	No	High risk
306	Not involved	NO	Single vessel disease	PTCA	5.68	Yes	No	No	No	No	No	SMOKER	Moderate risk
307	Involved	C	Single vessel disease	PTCA	5.96	No	Yes	No	No	No	Yes	No	High risk
308	Involved	C	Double vessel disease	PTCA	5.62	Yes	No	No	No	No	No	SMOKER	High risk
309	Not involved	NO	Double vessel disease	PTCA	15.8	No	No	Yes	Yes	Yes	No	No	Moderate risk
310	Involved	A	Critical triple vessel disease	CABG	8.64	No	No	Yes	Yes	No	Yes	No	High risk
311	Involved	C	Double vessel disease	PTCA	12.9	No	No	Yes	Yes	No	Yes	No	High risk
312	Involved	C	Triple vessel disease	PTCA	9.6	No	No	Yes	Yes	No	Yes	No	High risk
313	Involved	C	Double vessel disease	PTCA	8.64	No	No	Yes	No	No	Yes	SMOKER	High risk
314	Involved	C	Triple vessel disease	PTCA	6.34	No	Yes	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
315	Involved	C	Double vessel disease	PTCA	5.96	No	Yes	No	No	No	No	No	High risk
316	Involved	B	Single vessel disease	PTCA	11.4	No	No	Yes	Yes	No	Yes	No	High risk
317	Involved	A	Single vessel disease	PTCA	6.24	No	Yes	No	No	No	Yes	No	High risk
318	Involved	C	Triple vessel disease	PTCA	14.6	No	No	Yes	Yes	No	Yes	No	High risk
319	Involved	C	Single vessel disease	PTCA	5.6	Yes	No	No	No	No	Yes	No	High risk
320	Involved	C	Single vessel disease	PTCA	9.12	No	No	Yes	No	No	Yes	BETEL NUT	High risk
321	Not involved	NO	Minor coronary artery disease	OMT	6.4	No	Yes	No	Yes	No	Yes	No	Low risk
322	Not involved	NO	Single vessel disease	PTCA	8.2	No	No	Yes	Yes	No	No	No	High risk
323	Involved	C	Double vessel disease	PTCA	9.24	No	No	Yes	No	No	Yes	No	High risk
324	Involved	B	Double vessel disease	PTCA	6.1	No	Yes	No	No	No	Yes	SMOKER	High risk
325	Involved	A	Single vessel disease	PTCA	13.2	No	No	Yes	Yes	No	Yes	No	High risk
326	Involved	C	Double vessel disease	PTCA	12.6	No	No	Yes	Yes	No	Yes	SMOKER,ALCOHOLIC	High risk
327	Not involved	NO	Minor coronary artery disease	OMT	5.62	Yes	No	No	No	No	No	SMOKER	High risk
328	Involved	B	Triple vessel disease	PTCA	5.78	No	Yes	No	Yes	No	No	No	High risk
329	Involved	C	Triple vessel disease	PTCA	7.8	No	No	Yes	Yes	No	Yes	No	High risk
330	Involved	C	Critical triple vessel disease	CABG	6.24	No	Yes	No	No	No	No	No	High risk
331	Involved	C	Double vessel disease	PTCA	5.46	Yes	No	No	Yes	No	No	SMOKER,ALCOHOLIC	High risk
332	Not involved	NO	Single vessel disease	OMT	6.32	No	Yes	No	No	No	Yes	SMOKER,ALCOHOLIC	Moderate risk
333	Involved	A	Triple vessel disease	PTCA	8.96	No	No	Yes	Yes	No	Yes	No	High risk

334	Involved	C	Single vessel disease	PTCA	6.2	No	Yes	No	Yes	No	No	SMOKER	High risk
335	Involved	B	Triple vessel disease	PTCA	10.6	No	No	Yes	No	No	Yes	No	High risk
336	Not involved	NO	Double vessel disease	PTCA	5.49	Yes	No	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
337	Involved	B	Triple vessel disease	PTCA	5.46	Yes	No	No	No	No	Yes	No	High risk
338	Involved	C	Double vessel disease	PTCA	6.35	No	Yes	No	No	No	No	No	High risk
339	Involved	C	Single vessel disease	PTCA	5.86	No	Yes	No	No	No	No	TOBACCO CHEWING	High risk
340	Involved	B	Double vessel disease	PTCA	6.12	No	Yes	No	No	No	Yes	TOBACCO CHEWING	High risk
341	Involved	C	Double vessel disease	PTCA	5.92	No	Yes	No	Yes	No	No	No	High risk
342	Not involved	NO	Double vessel disease	PTCA	12.4	No	No	Yes	Yes	No	Yes	No	High risk
343	Involved	C	Single vessel disease	PTCA	8.96	No	No	Yes	Yes	No	Yes	No	High risk
344	Involved	C	Single vessel disease	PTCA	5.37	Yes	No	No	No	No	No	SMOKER	High risk
345	Involved	C	Single vessel disease	PTCA	5.89	No	Yes	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
346	Involved	C	Double vessel disease	PTCA	5.89	No	Yes	No	No	No	No	SMOKER	High risk
347	Involved	C	Double vessel disease	PTCA	5.67	Yes	No	No	No	No	Yes	SMOKER,ALCOHOLIC,TOBACCO CHEWING	High risk
348	Involved	C	Triple vessel disease	CABG	11.2	No	No	Yes	Yes	No	Yes	No	High risk
349	Not involved	NO	Double vessel disease	OMT	14.9	No	No	Yes	Yes	No	Yes	No	High risk
350	Not involved	NO	Single vessel disease	PTCA	5.64	Yes	No	No	No	No	No	No	High risk
351	Involved	A	Double vessel disease	PTCA	7.24	No	No	Yes	No	No	Yes	No	High risk
352	Not involved	NO	Single vessel disease	PTCA	5.6	Yes	No	No	No	No	Yes	No	High risk
353	Not involved	NO	Single vessel disease	PTCA	5.84	No	Yes	No	No	No	Yes	ALCOHOLIC	High risk
354	Involved	C	Triple vessel disease	PTCA	8.86	No	No	Yes	Yes	No	No	SMOKER	High risk
355	Involved	A	Single vessel disease	PTCA	5.46	Yes	No	No	No	No	No	No	High risk
356	Involved	C	Double vessel disease	PTCA	7.5	No	No	Yes	No	No	Yes	SMOKER	High risk
357	Involved	C	Double vessel disease	PTCA	6.32	No	Yes	No	No	No	Yes	No	High risk
358	Involved	C	Double vessel disease	PTCA	11.6	No	No	Yes	Yes	No	Yes	No	Moderate risk
359	Involved	C	Single vessel disease	CABG	9.8	No	No	Yes	Yes	No	Yes	No	High risk
360	Involved	C	Double vessel disease	PTCA	16.2	No	No	Yes	No	No	Yes	No	High risk
361	Involved	A	Triple vessel disease	PTCA	5.94	No	Yes	Yes	No	No	Yes	No	High risk
362	Not involved	NO	Single vessel disease	PTCA	5.62	Yes	No	No	No	No	No	SMOKER	High risk
363	Involved	C	Single vessel disease	PTCA	5.82	No	Yes	No	Yes	No	No	No	High risk
364	Involved	C	Single vessel disease	PTCA	5.4	Yes	No	No	No	No	No	SMOKER	High risk
365	Involved	A	Double vessel disease	PTCA	8.64	No	No	Yes	Yes	No	Yes	No	High risk
366	Involved	B	Double vessel disease	PTCA	5.92	No	Yes	No	No	No	Yes	No	High risk
367	Involved	C	Double vessel disease	PTCA	12.6	No	No	Yes	Yes	No	Yes	No	High risk
368	Involved	C	Triple vessel disease	PTCA	14.8	No	No	Yes	Yes	No	Yes	No	High risk
369	Involved	C	Double vessel disease	PTCA	6.18	No	Yes	No	Yes	No	No	No	High risk
370	Involved	C	Triple vessel disease	CABG	6.34	No	Yes	No	No	No	Yes	No	High risk
371	Involved	C	Single vessel disease	PTCA	7.98	No	No	Yes	Yes	No	No	No	High risk

372	Involved	C	Double vessel disease	PTCA	6.24	No	Yes	No	Yes	No	No	No	High risk
373	Not involved	A	Single vessel disease	PTCA	7.8	No	No	Yes	No	No	No	SMOKER,ALCOHOLIC	High risk
374	Involved	A	Single vessel disease	PTCA	11.4	No	No	Yes	Yes	No	No	ALCOHOLIC	High risk
375	Involved	B	Triple vessel disease	PTCA	6.24	No	Yes	No	No	No	Yes	No	High risk
376	Involved	C	Triple vessel disease	CABG	12.4	No	No	Yes	Yes	No	No	No	High risk
377	Involved	C	Critical triple vessel disease	CABG	14.6	No	No	Yes	Yes	No	No	SMOKER	High risk
378	Not involved	NO	Double vessel disease	PTCA	6.35	No	Yes	No	No	No	Yes	No	High risk
379	Involved	C	Critical triple vessel disease	CABG	6.25	No	Yes	No	No	No	No	ALCOHOLIC	High risk
380	Not involved	NO	Double vessel disease	PTCA	6.12	No	Yes	No	Yes	No	No	No	High risk
381	Involved	B	Triple vessel disease	PTCA	5.95	No	Yes	No	No	No	Yes	SMOKER	High risk
382	Involved	A	Single vessel disease	PTCA	6.24	No	Yes	No	No	No	No	SMOKER	High risk
383	Involved	C	Triple vessel disease	PTCA	5.82	No	Yes	No	Yes	Yes	Yes	No	High risk
384	Involved	B	Triple vessel disease	PTCA	11.2	No	No	Yes	No	No	No	No	High risk
385	Involved	A	Minor coronary artery disease	OMT	5.62	Yes	No	No	No	No	Yes	No	Low risk
386	Not involved	NO	Minor coronary artery disease	OMT	8.5	No	No	Yes	Yes	No	Yes	SMOKER	Low risk
387	Involved	B	Triple vessel disease	PTCA	6.35	No	No	No	No	No	No	No	High risk
388	Not involved	NO	Single vessel disease	PTCA	5.6	No	Yes	No	Yes	No	No	No	High risk
389	Involved	C	Double vessel disease	PTCA	8.94	No	No	Yes	No	No	Yes	No	High risk
390	Involved	C	Triple vessel disease	PTCA	13.8	No	No	Yes	No	No	Yes	No	High risk
391	Involved	A	Double vessel disease	OMT	5.96	No	Yes	No	No	No	Yes	No	Low risk
392	Not involved	NO	Single vessel disease	PTCA	5.68	Yes	No	No	Yes	No	Yes	No	High risk
393	Not involved	NO	Single vessel disease	PTCA	5.86	No	Yes	No	No	No	Yes	SMOKER	Moderate risk
394	Involved	C	Single vessel disease	PTCA	11.26	No	No	Yes	No	No	Yes	No	High risk
395	Involved	C	Double vessel disease	PTCA	6.24	No	Yes	No	No	No	Yes	BETEL NUT	High risk
396	Involved	B	Double vessel disease	PTCA	5.78	No	Yes	No	No	No	Yes	No	High risk
397	Involved	C	Critical triple vessel disease	CABG	6.5	No	Yes	No	No	No	Yes	No	High risk
398	Involved	C	Double vessel disease	PTCA	12.6	No	No	Yes	Yes	No	No	No	High risk
399	Involved	C	Single vessel disease	PTCA	5.65	No	No	No	No	No	Yes	SMOKER,ALCOHOLIC	High risk
400	Involved	C	Double vessel disease	PTCA	6.45	No	Yes	No	Yes	Yes	Yes	No	High risk