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Review Article

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PREDICTION OF POSSIBLE RISK FACTORS FOR MYOCARDIAL INFRACTION INCLUDINGNON PHARMACOLOGICAL MANAGEMENT:

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ABSTRACT

This article is For STEMI, reperfusion strategy can include fibrinolytic therapy or immediate PCI. For patients with NSTEMI, angiography may be done within 24 to 48 hours of admission if the patient is clinically stable. If the patient is unstable (eg. ongoing symptoms, hypotension or sustained arrhythmias), then angiography must be done immediately. Predict the possible risk factors for myocardial infraction and to adopt the lifestyle changes to reduce the complications of Myocardial infraction. The risk factors include high blood pressure,smoking, diabetes, lack of exercise, obesity, high blood cholesterol, poor diet and excessive alcohol intake. The complete blockage of a coronary artery caused by a rupture of an atherosclerotic plaque is usually the underlying mechanism of Myocardial infraction. Many risk factors for myocardial infarction are potentially modifiable, with the most important being tobacco smoking. Smoking appears to be the cause of about 36% and obesity the cause of 20% of coronary artery disease. Lack of physical activity has been linked to 7–12% of cases. Less common causes include stress-related causes such as job stress, which accounts for about 3% of cases, and chronic high stress levels. Family history of Ischemic heart disease, age factor, combined use of oral contraceptive by women and endometriosis. Use of certain pharmacotherapeutic agents are also included in risk factors of myocardial infraction. **Methodology:** We used various tools to gather the data which include databases such as science direct, PubMed, Medscape, Medline. **Results:** The result obtained by this review article is, there are many modifiable and non-modifiable riskfactors for myocardial infraction, which have severe complications. This article let you know how to manage the risk of myocardial infraction by adopting certain lifestyle modifications. **Purpose:** The purpose of this study is to know about risk factors of myocardial infraction and to adopt certain life style changes accordingly. Thus reduce the complications of myocardial infraction, and maintaining the quality of life.

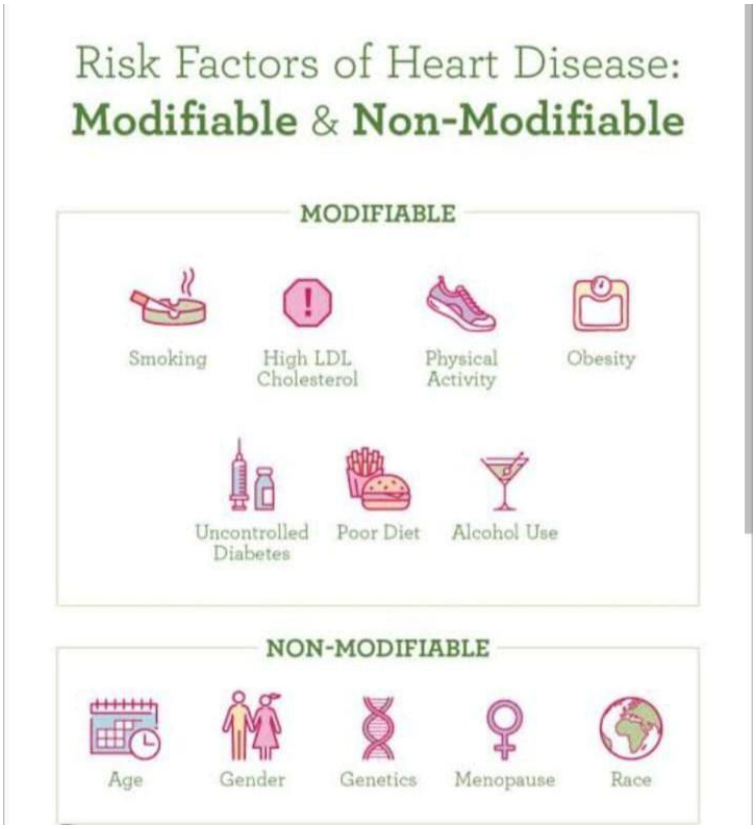
KEYWORDS: Risk factors, disease comorbidities, age, and pharmacotherapeutic agents.

INTRODUCTION

Cardiovascular disease is the leading cause of death worldwide. One such disease is myocardial infraction in which the myocardial cells are destroyed. It occurs when myocardial tissues are abruptly deprived of oxygen. There is a increasing prevalence of risk for Myocardial infraction due to lifestyle changes and family history. Risk factors include high blood pressure, smoking, diabetes, lack of exercise, obesity, high blood cholesterol, poor diet and excessive alcohol intake. The complete blockage of a coronary artery caused by a rupture of an atherosclerotic plaque is usually the underlying mechanism of Myocardial infraction. Myocardial infraction are less commonly caused by coronary artery spasms. Smoking and obesity accounts for 36%, coronary artery disease account for 20%, lack of physical activity account for 7-12% and stress account for 3% of cases of Myocardial infraction. Family history of ischemic heart disease is a major risk factor for Myocardial infraction. the inherintance pattern is if one has a male first- degree relative who had a myocardial infarction before age 55 years, or a female first-degree relative less than age 65 increases a person's risk of Myocardial infraction. The risk of myocardial infarction increases with older age, low physical activity, and low socioeconomic status. Heart attacks appear to occur more commonly in the morning hours, Evidence suggests that heart attacks are at least three times more likely to occur in the morning than in the late evening. Shift work is also associated with a higher risk of Myocardial infraction. Women who use combined oral contraceptive pills are also at increased risk of myocardial infarction, especially in the presence of other risk factors. The use of non-steroidal anti inflammatory drugs (NSAIDs), even for as short as a week, increases the risk of Myocardial infraction. Another pharmacotherapeutic agents like chemotherapeutic agents [cisplatin, 5-fluorouracil], antimigraine drugs[triptans], antibiotics [amoxicillin with clavulanic acid, cefuroxamine] bromocriptine and pseudoephedrine also increase risk of Myocardial

infraction. Endometriosis in women under age of 40 years is identified as risk factor for Myocardial infraction.

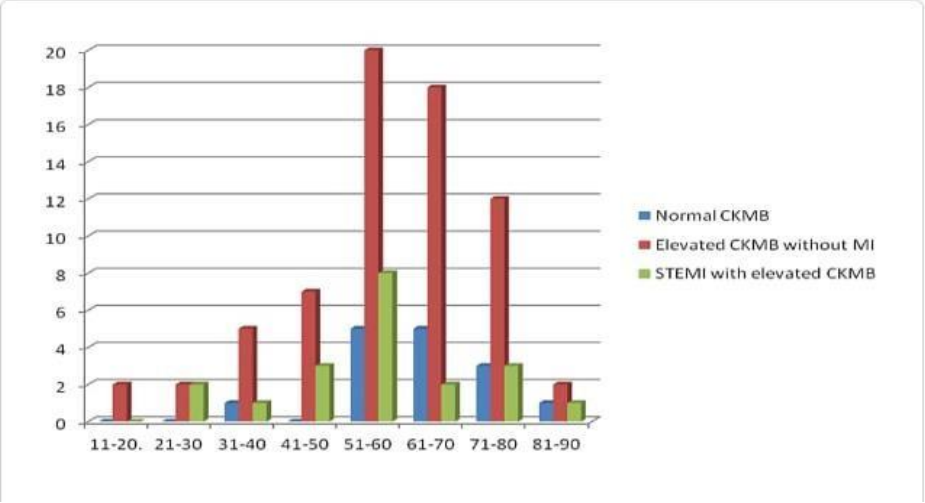
Atherosclerotic cardiovascular disease [ASCVD] Risk Calculator. We use certain scales for assessment of certain Cardio vascular diseases such as ASCVD, Reynolds Risk Score and Framingham General CVD Risk Profile Myocardial infraction. we also use MIDAS - 35 [myocardial infraction dimension assessment scale] Rating sale.



EPIDEMIOLOGY

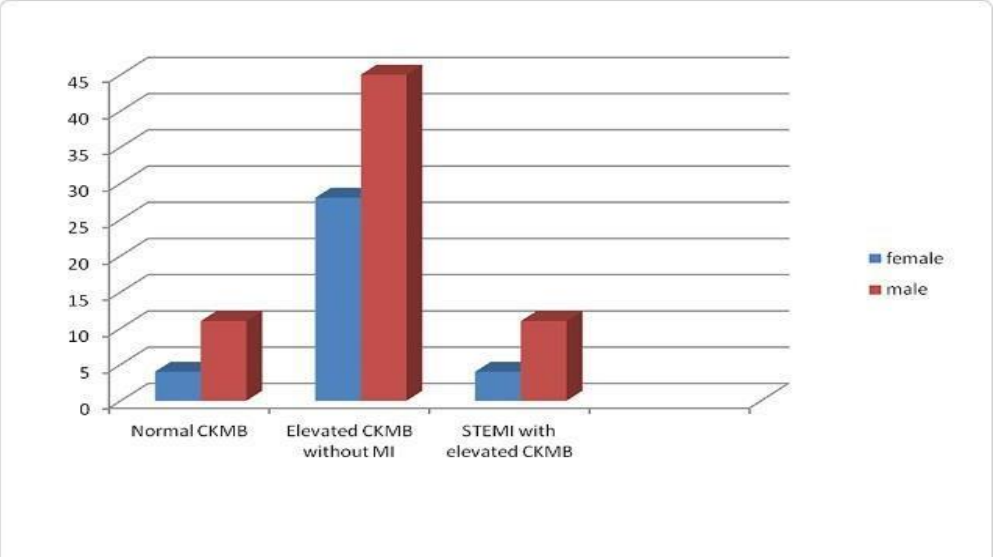
Prevalence of myocardial infraction according to age

The prevalence of myocardial Infarction according to the age shows that the people of age group 51-60 years have a highest rate of risk (8%), the people of age group 41-50 and 71-80 has2.9% of risk, and the people of age group 21-30 years and 61-70 years has a risk of 1.94%

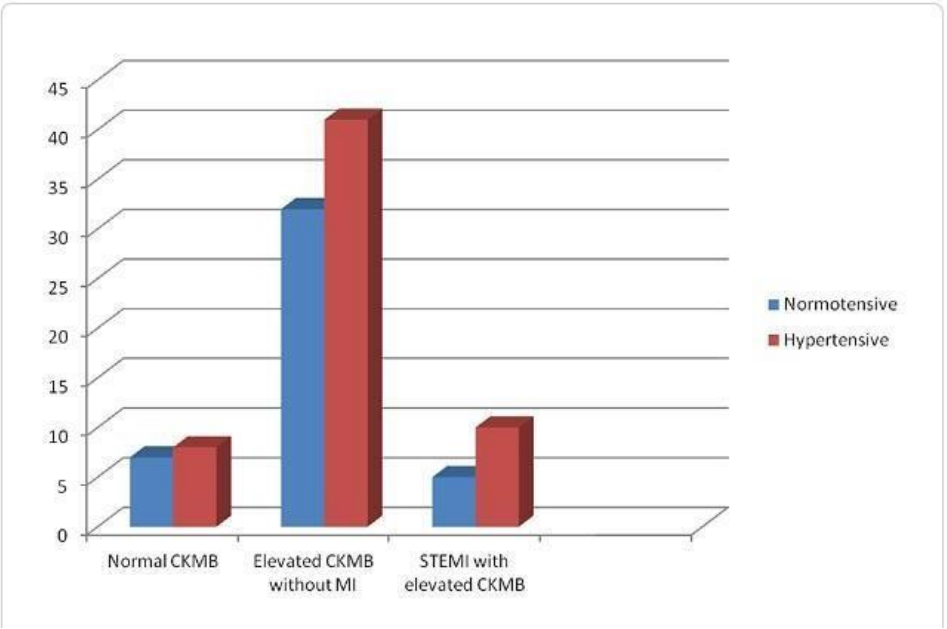


Prevalence of myocardial Infraction according to gender

In general males are more effected than females even in the distribution in subgroups like ST elevation myocardial infraction, with CK-MB elevation and without CK-MB elevation.



Prevalence of myocardial infraction between hypertension patients and non hypertensionpatients
The risk of myocardial infraction in hypertension patients is more when compare to non hypertension patient.



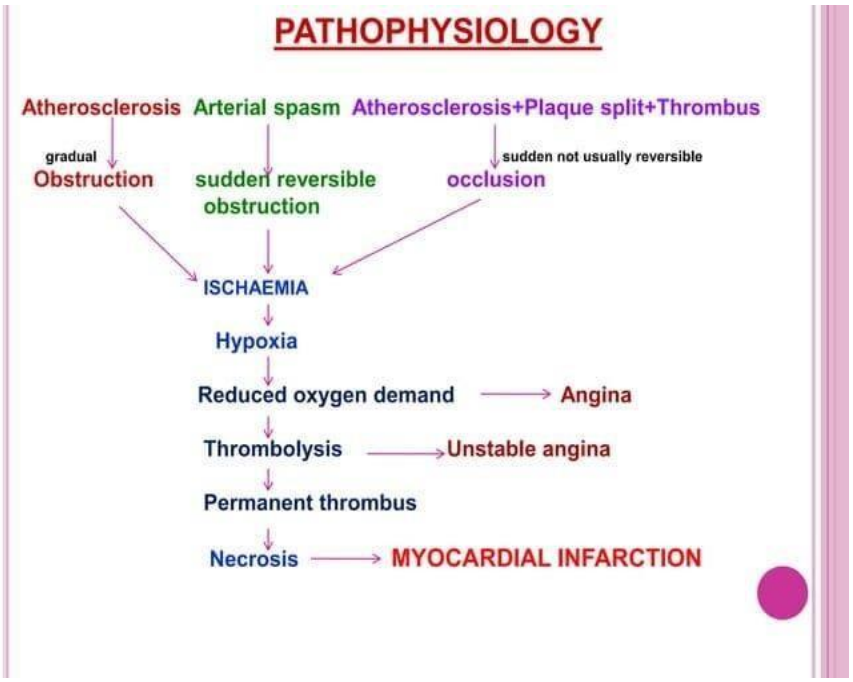
TYPES OF MYOCARDIAL INFRACTIONS
Type-1 Myocardial infraction: Spontaneous related to primary atherothrombotic event.
Type-2 Myocardial infraction: Secondary to increase oxygen demand or reduced supply.
Type-3 Myocardial infraction: Sudden cardiac death likely due to ischemia.
Type-4 Myocardial infraction: Associated with percutaneous coronary interventions.
Type-5 Myocardial infraction: Associated with cardiac surgery.

Acute myocardial injury: Acute troponin elevation above 99th centile in absence of ischemia.
Chronic myocardial infraction: Chronically elevated troponin above 99th centile of absence ofischemia.

LOCALIZATION OF MYOCARDIAL INFRACTION
- Anterior myocardial infraction.
- Septal myocardial infraction.
- Lateral myocardial infraction.
- Inferior myocardial infraction.
- Posterior myocardial infraction.
- Right ventricle myocardial infraction.
- Atrial myocardial infraction.

COMPLICATIONS OF MYOCARDIAL INFRACTION
- Congestive heart failure
- Cardiogenic shock
- Mural thrombosis
- Ventricular wall rupture

- Cardiac aneurysm
- Pericarditis
- Post myocardial infraction syndrome



SIGNES AND SYMPTOMS

PAIN

- Substernal chest pain
- Jaw
- Left arm
- Mid back
- Epigastric

SHORTNESS OF BREATH

- Dyspnea
- Labored breathingNAUSEA AND VOMITING:
- Abdominal painSWEATING:
- Diaphoresis Pale cool skin (duskey)Anxiety
- Fatigue Stress Depression

DIAGNOSIS

- Electrocardiogram
- Blood test to measure the levels of biomarkers like troponin I
- Radionuclide imaging
- Immediate coronary angiography
- Delay coronary angiography

TREATMENT

The people who are at risk of myocardial infraction or who have a history of myocardialinfraction should take a preventive steps like prehospital care.

Prehospital care includes, Aspirin chewable (aspirin 325mg), nitrates, oxygen(2L by nasalcannula) and triage the patient to hospital and drugs include are antiplatelet drugs, anticoagulants, antianginal, and reperfusion therapy and ECG monitoring is done.

Early diagnosis can reduce the complications of myocardial infraction

Hospital admission

Therapy is given based on patient condition. Therapy includes anticoagulants, antianginal andantiplatelet.

Drug therapy and timing of revascularization depend on the clinical picture and diagnosis.

Fibrinolytic therapy is given in ST elevation myocardial infraction and in non ST elevation myocardial infraction angiography should me done in 24-48 hours of patient admission if patient is unstable then angiography should done immediately after patient is admitted.

LIFESTYLE CHANGES

If you have a family history of myocardial infraction you can't change your family history, but you can reduce your risk of myocardial infraction by:

- Avoid smoking
- Being physically active
- By maintain your body mass index
- Maintain a healthy balanced diet
- Manage high blood pressure
- Manage high cholesterol, and
- Monitor your blood sugar levels.

Consult a doctor if you have a family history of myocardial infraction, even if you feel healthy. They can check your blood pressure and your blood cholesterol level. Increase of which is a risk factor for myocardial infraction.

Adopting a habit of Aerobic exercise, maintaining

balanced diet, avoiding smoking and alcohol, helps in maintaining lipid profile, monitoring blood pressure, improve insulin sensitivity and maintain cardiorespiratory fitness which help in reduce the complications of myocardial infraction.

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