



LIPID PROFILE WITHIN FIRST 24 HOURS IN ACUTE MYOCARDIAL INFARCTION

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ABSTRACT

A strong positive correlation exist between serum cholesterol and coronary heart disease (CHD) worldwide, the incidence being higher in countries where median cholesterol levels are high and correspondingly low in countries where median cholesterol levels are low. Observational studies have identified LDL cholesterol as a major risk factor causing atherosclerosis with or without coronary heart disease. Increased level of VLDL, plasma triglyceride have been found to be positively associated with increased coronary heart disease risk, while high density lipoprotein cholesterol (HDL-C) level shows inverse relationship with coronary heart disease.

KEYWORDS : lipid profile, acute mi, ldl, vldl, hdl, triglyceride, cholesterol, coronary heart disease.

INTRODUCTION

Coronary artery disease mortality and morbidity can be prevented by risk factor reduction. These risk factors includes both modifiable and non-modifiable. Most epidemiological data links hypertension, cigarette smoking, obesity, lack of physical activity and dyslipidemia as major modifiable risk factors and age, sex, race, positive family history as major non-modifiable risk factors. In review of the revived, more aggressive guidelines for management of hyperlipidemia in patients with clinical manifestation of coronary heart disease, a lipid profile should be obtained in all acute myocardial infarction (AMI) patients who are admitted within 24 hours of symptoms. For patients admitted beyond 24 hours, it is best to defer determination by at least 8 weeks. This is because in AMI the level of lipid profile falls after 24-48 hours and only returns to its pre infarct level after 6-8 weeks.

AIMS AND OBJECTIVES

To study relationship between different components of serum lipoprotein with myocardial infarction within first 24 hour. in patient admitted in RIMS, Ranchi.

MATERIALS AND METHODS

This study was done on patient admitted in ICU of department of medicine, RIMS, Ranchi over a period of one year with possible first myocardial infarction presenting within first 24 hours of onset of symptoms. This is a case control study and included 50 cases and 50 control.

INCLUSION CRITERIA

Diagnosis of acute myocardial infarction was based on the presence of two of the following three findings: 1. History of angina lasting for more than 30 minutes. 2. Evolution of typical electrocardiographic changes i.e. ST segment elevation of more than 1 mm above baseline in at least 2 leads of standard 12 lead ECG. 3. Troponin T and/or Troponin I positivity by kit method (Trop T kit).

EXCLUSION CRITERIA

Those having definitive history or electrocardiographic evidence of prior myocardial infarction.

Patients presenting with myocardial infarction more than 24 hours of onset of symptoms.

Chronic renal failure or chronic renal parenchymal damage. Nephritic syndrome.

Liver disease.

Any disabling terminal illness.

OBSERVATION AND RESULTS

In the present study, in patients the mean total serum cholesterol (TC), total triglyceride (TG), high density lipoprotein cholesterol (HDL-C) were found to be 185.88 mg/dl, 181.14 mg/dl, 40.004 mg/dl. The low-density lipoprotein cholesterol (LDL-C) and Very low-density lipoprotein cholesterol (VLDL-C) were 135.64 mg/dl, 30.48 mg/dl respectively. The LDL-C value was higher than the optimal value. The mean total cholesterol (TC), triglyceride (TG), high density lipoprotein cholesterol (HDL-C), low density lipoprotein cholesterol (LDL-C) and very low density lipoprotein cholesterol (VLDL-C) in the control subject in present study were 164.5 mg/dl, 147.95 mg/dl, 42.1 mg/dl, 92.76 mg/dl, 33.157 mg/dl respectively.

DISCUSSION

- Mean LDL cholesterol value was more than normal in case of AMI.
- Low HDL-C level were found in patients of AMI.
- Raised level of total cholesterol were associated with AMI, however, the level of total cholesterol noted in this study was lower than the normal value mentioned in most of the western studies. So normal value of lipid especially total cholesterol should be revised and standardized for the Indian population.
- Raised levels of TC/HDL-C were found in cases of AMI.
- Mean TG levels were more than normal in persons with AMI. However, there were many individual variations (ranging from 52-553).
- So TG levels were liable to be affected by many other factors (diet, physical activity, alcohol, drugs) and need standardization before correlating it with AMI.

Thus in all probability, more than optimal LDL cholesterol, relatively high total cholesterol, low HDL cholesterol and high TC/HDL-C were closely related with AMI.

CONCLUSION

Elevated LDL-C, TC/HDL-C ratio and relatively high total cholesterol, elevated triglycerides and low HDL-C levels were found to be related to the development of acute myocardial infarction in this study.

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