Original Article

Evaluation of Serum Lipid Profile in Patients of Coronary Artery Disease
Muhammad Shoaib¹, Rana Tauqir Ullah Khan² and Fouzia Qadir³

ABSTRACT

Objective: The objective of this study to evaluate Serum Lipid Profile in Patients of Coronary Artery Disease in Mirpur, AJK.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Biochemistry and Community Medicine, Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, and AJK from January 2019 to July 2019.

Materials and Methods: In this study we select 70 diabetic patients and 30 controls from AJK and Peshawar. We collected blood samples from both groups test and control. We analyzed blood sample for Glucose, High density lipoprotein, low density lipoprotein IDL, Triglyceride and Total cholesterol. We analyzed the sample of both groups’ diabetic patients and control by Micro lab 300. We use Merck kit for analysis the sample.

Results: We observed in our study that glucose level in serum is high in Coronary Artery Disease patients as compare to Control. We found that fasting glucose mg/dl level is (96.8 ± 4.2) in Coronary Artery Disease patients while in Control fasting glucose level mg/dl is (98.4 ± 4.9). Lipid profile is also high in Coronary Artery Disease patients as compare to Control. Total cholesterol level in Coronary Artery Disease patients is higher compare to Control. Total cholesterol in Coronary Artery Disease patients is (255.5 ± 12.8) mg/dl and in Control is (193.6 ± 30.5) mg/dl. LDL value Coronary Artery Disease patients is (129.8 ± 22.5) mg/dl and in Control is (116.5 ± 18.5) mg/dl. HDL value in Coronary Artery Disease patients is (56.7 ± 8.5) mg/dl and in Control is () mg/dl. Total glyceride value in Coronary Artery Disease patients is (189.2 ± 32.5) mg/dl and in Control is (143.3 ± 31.2) mg/dl

Conclusion: We found and conclude that high lipid profile found in in coronary heart disease patients as compare to control. Reduction of lipid profile is reduction of CHD risk.

Key Words: Coronary Artery Disease, Lipid profile, Control


INTRODUCTION

Morbidity and mortality is caused by Coronary heart disease (CHD) Hyperlipidemia is one of the most important reasons of Coronary heart disease (CHDtransitiion.¹ There are four primary coronary arteries are present on the surface of the heart.² Coronary heart disease (CHD) is high ratio in man as compare women.³ Total cholesterol, triglyceride, HDL, LDL are the factors and reasons of cardiovascular disease.⁴-⁶

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Coronary heart disease strongly and inversely, correlated with TG.HDL increase vasoprotective effects. The progression of heart disease are strongly associated with high levels of cholesterol in blood circulation.⁷-⁸ Risk factors of CHD are modifiable and modifiable⁹. Lipids and lipoproteins have, their association with CHD, high level of lipid is mostly occurring factor.¹⁰ The objective of this study to evaluate lipid profile in CHD patient Mirpur AJK.

MATERIALS AND METHODS

In this study we select 70 diabetic patients and 30 controls. The study was conducted in the department of Biochemistry and Community Medicine of Mohtarma Benazir Bhutto Shaheed Medical College Mirpur AJK. We collected blood samples from both groups test and control. We analyzed blood sample for Glucose, High density lipoprotein, low density lipoprotein IDL, Triglyceride and Total cholesterol. We analyzed the sample of both groups’ diabetic patients and control by Micro lab 300. We use Merck kit for analysis the sample.

RESULTS

We observed in our study that glucose level in serum is high in Coronary Artery Disease patients as compare to
Control. We found that fasting glucose mg/dl level is (96.8 ± 4.2) in Coronary Artery Disease patients while in Control fasting glucose level mg/dl is (98.4 ± 4.9). Lipid profile is also high in Coronary Artery Disease patients as compare to Control. Total cholesterol level in Coronary Artery Disease patients is higher compare to Control. Total cholesterol in Coronary Artery Disease patients is (255.5 ± 12.8) mg/dl and in Control is (193.6 ± 30.5) mg/dl. LDL value Coronary Artery Disease patients is (129.8 ± 22.5) mg/dl and in Control is (116.5 ± 18.5) mg/dl. HDL value in Coronary Artery Disease patients (56.7± 8.5) mg/dl and in Control is (193.6 ± 30.5) mg/dl. Total glyceride value in Coronary Artery Disease patients is (189.2 ± 32.5) mg/dl and in Control is (143.3 ± 31.2) mg/dl.

<table>
<thead>
<tr>
<th>Table No.1: Participant characteristics</th>
<th>Control (n=30)</th>
<th>Coronary Artery Disease Patients (n=70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>50.4 ± 10.2</td>
<td>50.7 ± 10.6</td>
</tr>
<tr>
<td>Male/Female (%)</td>
<td>35/35</td>
<td>15/15</td>
</tr>
<tr>
<td>Body weight (Kg)</td>
<td>68.1 ± 11.4</td>
<td>69.4 ± 11.5</td>
</tr>
<tr>
<td>BMI (kg/m2)</td>
<td>24.3 ± 2.6</td>
<td>24.4 ± 2.7</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table No.2: Biochemical profile of pregnant women and non-pregnant women</th>
<th>Control (n=30)</th>
<th>Coronary Artery Disease Patients (n=70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting Blood Glucose (mg/dl)</td>
<td>98.4 ± 4.9</td>
<td>96.8 ± 4.2</td>
</tr>
<tr>
<td>Total Cholesterol (mg/dl)</td>
<td>193.6 ± 30.5</td>
<td>255.5 ± 12.8</td>
</tr>
<tr>
<td>LDL (mg/dl)</td>
<td>116.5 ± 18.5</td>
<td>129.8 ± 22.5</td>
</tr>
<tr>
<td>HDL (mg/dl)</td>
<td>42.5 ± 9.2</td>
<td>56.7± 8.5</td>
</tr>
<tr>
<td>Triglycerides (mg/dl)</td>
<td>143.3 ± 31.2</td>
<td>189.2 ± 32.5</td>
</tr>
</tbody>
</table>

DISCUSSION

Morbidity and mortality is caused by Coronary heart disease (CHD) Hyperlipidemia is one of the most important reasons of Coronary heart disease (CHD) transition. There are four primary coronary arteries are present on the surface of the heart. In this study we select 70 diabetic patients and 30 controls. The study was conducted in the department of Biochemistry and Community Medicine of Mohtarma Benazir Bhutto Shaheed Medical College Mirpur AJK. We collected blood samples from both groups test and control. We analyzed blood sample for Glucose, High density lipoprotein, low density lipoprotein IDL, Triglyceride and Total cholesterol. We analyzed the sample of both groups’ diabetic patients and control by Micro lab 300. We use Merck kit for analysis the sample. Result showed that high cholesterol caused Coronary heart disease.\textsuperscript{11} The Framingham result showed, there is association of high cholesterol with Coronary heart disease.\textsuperscript{12,13} We observed in our study that glucose level in serum is high in Coronary Artery Disease patients as compare to Control. We found that fasting glucose mg/dl level is (96.8 ± 4.2) in Coronary Artery Disease patients while in Control fasting glucose level mg/dl is (98.4 ± 4.9). Lipid profile is also high in Coronary Artery Disease patients as compare to Control. Total cholesterol level in Coronary Artery Disease patients is higher compare to Control. Total cholesterol in Coronary Artery Disease patients is (255.5 ± 12.8) mg/dl and in Control is (193.6 ± 30.5) mg/dl. LDL value Coronary Artery Disease patients is (129.8 ± 22.5) mg/dl and in Control is (116.5 ± 18.5) mg/dl. HDL value in Coronary Artery Disease patients (56.7± 8.5) mg/dl and in Control is (193.6 ± 30.5) mg/dl. Total glyceride value in Coronary Artery Disease patients is (189.2 ± 32.5) mg/dl and in Control is (143.3 ± 31.2) mg/dl.

CONCLUSION

We found and conclude that high lipid profile found in coronary heart disease patients as compare to control. Reduction of lipid profile is reduction of CHD risk.

Author’s Contribution:
Concept & Design of Study: Muhammad Shoaib
Drafting: Rana Tauqir Ullah Khan
Data Analysis: Fouzia Qadir
Revisiting Critically: Muhammad Shoaib, Rana Tauqir Ullah Khan
Final Approval of version: Muhammad Shoaib

Conflict of Interest: The study has no conflict of interest to declare by any author.

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