Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublisher.com/sjams/

OPEN ACCESS

Biochemistry

Comparison of Biochemical Data Obtained from Master Health Check up Patients and Known Diabetic Individuals

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| **Received:** 16.02.2019 | **Accepted:** 26.02.2019 | **Published:** 28.02.2019
DOI: 10.21276/sjams.2019.7.2.83

Abstract **Original Research Article**

Aim: Our aim of the study is to analyze the lipid profile data and blood sugar data from Master Health check up cases and Diabetic cases retrospectively from the available data register. To look for evidence of diabetic dyslipedemia. ***Materials and Methods:*** In this study we compared 300 Masterhealth checkup cases with normal blood sugar versus 300 diabetic cases. The study was conducted at clinical biochemisytry lab, Govt mohan kumaramangalam medical college and hospital, salem. The previously stored data for the month of Jan 2019 is used for Anaysis. ***Results:*** There were no significant differences in lipid profile values among diabetic cases and materhealth checkup cases. There is significant difference among blood sugar values between MHC cases and diabetic controls and it very well correlates with lipid profile values.

Keywords: Diabetic dyslipedemia, MHC (masterhealth checkup) cases, Lipid Profile.

INTRODUCTION

There is increasing awareness among diabetes, heart disease, obesity, Hypertension, thyroid disorders among general public.so routinely master health checkup screening is done in tertiary care hospitals at subsidized rate. Everyday about 30-40 cases come for master heath checkup in our hospital and 150 diabetic cases come for regular check up.

Diabetic Dyslipidemia is one of the major risk factor for cardiovascular disease and stroke [1]. Diabetic dyslipidemia is characterised by, increased triglycerides, low HDL concentration, high LDL concentration [2]. Insulin Resistance is the primary mechanism leading to lipid derangements in individuals with diabetes [3].

Aim

To study and compare the lipid profile levels and blood sugar levels from diabetic and master health cases register.

MATERIALS AND METHODS

The data obtained from master health register and diabetic register was used to compare the blood sugar and lipid values between two groups.

Exclusion criteria

Those with abnormal blood sugar were excluded from the study in master health registry.

It was designed as a retrospective study involving 300 Master Health Checkup cases and 300 diabetic cases. Data stored at GMKMC Biochemistry department and Diabetology op lab register were used for the study. Serum cholesterol, Serum triglycerides, HDL Cholesterol, fasting and postprandial values were compared. Mean, SD, Range, for each parameter is calculated and compared using independent t Test. All the analytes were estimated in Autoanalyser XL640 and EM200 after calibrating and verifying with Quality control samples. Independent t test was used to compare and analyse the data. Graph pad Prism was used for statistical analysis.

RESULTS AND DISCUSSION

Table-1: shows the comparison of fasting blood sugar between cases and controls

	Diabetics(mg/dl)	MHC cases(mg/dl)
Mean	191.7	90.5
SD	±85.9	±8.0
Minimum	87	75
Maximum	391	114
95%CI	-132.7 to -69.66	p-<0.0001(S)

Table-2: Shows the comparison of post prandial Blood sugar between diabetics and MHC cases

	Diabetics(mg/dl)	MHC cases(mg/dl)
Mean	302.4	115.5
SD	±123.6	±11.5
Minimum	112	103
Maximum	585	140
95%CI	-232.2 to -141.5	p-<0.0001(S)

Table-3: Shows the comparison of Total Cholesterol between diabetics and MHC cases

	Diabetics(mg/dl)	MHC cases(mg/dl)
Mean	181.7	165.1
SD	±36.4	±33.3
Minimum value	120	98
Maximum value	250	224
95%CI	-34.61 to 1.479	p-0.0712 (NS)

Table-4: Shows the comparison of Triglyceride between diabetics and MHC cases

	Diabetics(mg/dl)	MHC cases(mg/dl)
Mean	154.7	130.8
SD	±78.0	±51.5
Minimum value	46	48
Maximum value	445	251
95%CI	-58.22 to 10.08	p-0.1637(NS)

Table-5: Shows the comparison of HDL C between diabetics and MHC cases

	Diabetics(mg/dl)	MHC cases(mg/dl)
Mean	49.9	45.25
SD	±11.08	±10.5
Minimum value	24	23
Maximum value	69	70
95%CI	-10.25 to 0.9156	p-0.0996 (NS)

Cholesterol screening is recommended every 5 years for all adults over 20 years. Hyperlipidemia is a common complication of Diabetes Mellitus. NCEP program ATP recommends Desirable cholesterol level is 200 mg/dl. Borderline high is 200-239 mg/dl, High is more than 240 mg/dl HDl <40 mg/dl is bad HDL>60 mg/dl is good [4].Similarly according to ADA criteria FBG is <100 mg/dl, post prandial is 90-140mg/dl. Early detection and screening for diabetes will prevent Non Alcoholic Fatty Liver Disease, Renal Impairment, Dyslipidemia

But in our study we have not arrived any significant difference in lipid profile values between apparently normal MHC cases and diabetics. This could be because patients were on treatment. In our study we have not included patients alcoholic history, smoking history, BMI measurement, HT, Weight, BP measurements.

But there is a significant difference in fasting and post prandial blood sugar values between diabetic and controls with significant p value and there is definite correlation between blood sugar and lipid profile values.

CONCLUSION

In our study there is no significant difference in lipid profile values between diabetics and MHC cases. We have excluded only diabetics from master health cases. This could be the cause for insignificant difference in lipid profile values between them.

People can be encouraged to utilize preventive health services for early detection of disease states and adopt timely interventions in this era of increasing lifestyle diseases.

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