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Hypertension and Lipid Profile of Patients of DG Khan District

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Abstract

During this study one hundred participants were enclosed with average age ± Coyote State of fifty 0 ± 5.91 years. The mean SBP and DBP were 137.5 ± 9.61 mmHg and ninety-four 5 ± 8.7 mmHg, severally. The mean TC, HDL, and low-density lipoprotein were lower for females as compared to males, that was statistically important (P and lt; 0.05). The mean age ± Coyote State of hypertensive patients and traditional were fifty 00 ± 4.06 and 35.4 ± 3.52 years, severally. Humour levels of TC, TG, and low-density lipoprotein were 238.3 ± 3.4, 178.3 ± 6.3, and 151.3 ± 7.8 mg/dL, severally, in hypertensive subjects whereas in traditional subjects, they were 187 ± 6.2, 141.5 ± 11.2, and 110.3 ± 6.3 mg/dL, severally, that were considerably higher in hypertensive patients (P and lt; 0.001). The humour HDL was considerably lower (P and lt; 0.001) in hypertensive patients (41.2 ± 3.2 mg/dL) than in normotensive subjects (44.3 ± 5.6 mg/dL). The mean SBPs of hypertensives and normotensives were 146.8 ± 8.5 mmHg versus 119.2 ± 9.3 mmHg, severally, and mean DBPs were ninety-eight 9 ± 7.3 mmHg versus eighty-four 9 ± 5.3 mmHg, severally. The mean SBP and DBP of hypertensives were beyond those of normotensives (P and lt; 0.001). Age, WC, and BMI showed important association with hypertensive patients (P and lt;0.001) however not with traditional subjects. This study was conducted in DG Khan patients showed that the foremost rife abnormality in adults, aged 20-69 years, was cholesterin below zero 9 mmol/L (46.2% for men and twenty-eight 7% for women). Hypertriglyceridemia (and gt; 2.26 mmol/L) was the second most rife abnormality (24.3%). Increased LDL (≥ 4.21 mmol/L) was ascertained in eleven 2% of the sample. Half the hyper triglyceridemic subjects had a mixed dyslipidemia or low cholesterin. Over five hundredth of the low HDL cases weren't involving hypertriglyceridemia. The Survey of HDL measured lipids and different vessel risk factors in nondiabetic patients undergoing treatment for dyslipidemia in DG Khan and showed that diabetic patients had lower HDL (1.22 ± 0.37 mmol/L versus one.35 ± 0.44 mmol/L, and nbsp; P and lt;0.001) and better TG (2.32 ± 2.10 mmol/L versus one.85 ± 1.60 mmol/L, and nbsp; P and lt; 0.001) than nondiabetic patients. When a diabetic compared to nondiabetic patients had low HDL (45% versus half-hour, severally), high TG (≥ 1.7 mmol/L; fifty-seven versus forty-second, severally), or each (32% versus a hundred and ninetieth, severally). HDL and lt 0.9 mmol/L was found in eighteen of diabetic and 12-tone system of nondiabetic subjects. Previous studies showed the high rate of CVD mortality among South-East Asian compared to the remainder of the planet which majority of CVD deaths occur below the age of seventy and nbsp a good vary of risk factors for CVD has been studied in DG Khan, however few studies have measured the association of CVD risk with cardiovascular disease and macromolecule profile. A study in rural areas of DG Khan according that the prevalence of “high” TC concentration (and gt; 240 mg/dL or and gt; 6.2 mmol/L) is regarding 17 November, “high” LDL (≥ 160 mg/dL or ≥ 4.2 mmol/L) is regarding two%, and “low” HDL (and lt; 40 mg/dL or and lt; 1.04 mmol/L) is regarding sixty seven.

Keywords: Blood pressure; Lipids; Cholesterol; Hypertension; Cardiovascular disease

Introduction

Cardiovascular disease is that the commonest of the guts diseases that is leading explanation for morbidity and mortality within the industrial world yet as in developing countries. The prevalence of cardiovascular disease is higher in blacks than whites and it will increase with age altogether teams. The foremost necessary risk factors for the event of cardiovascular disease are multiplied salt intake, obesity, cigarette smoking, elevated humour level, lack of physical exertion, genetic factors and stress and pain. The blood macromolecule and lipoproteins are closely related to cardiovascular disease [1,2].

The humour macromolecule level of hypertensive patients is typically higher and may be lowered either by dietary or by hypolipidemic agents. The modification on humour macromolecule profile level on hypertensive patients ought to be actively investigated. This study could facilitate to grasp the impact of rennin-angiotensin system in regulation of vital sign [3-5].

The classification is predicated on the mean of 2 or a lot of properly measured sitting vital sign readings on 2 or a lot of workplace visits. Traditional vital sign is outlined as levels and lt; 120/80 mmHg. Pulsation vital sign of 120-139 mmHg or pulse vital sign 80-89 mmHg is classed as prehypertension. These patients are at multiplied risk for progression to cardiovascular disease. Hypertension is defined as systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg [6,7]. cardiovascular disease is split into 2 stages.

- Stage one includes patients with pulsation vital sign 140-159 mmHg or pulse vital sign 90-99 mmHg.
- Stage 2 includes patients with systolic blood pressure ≥ 160 mmHg or diastolic blood pressure ≥ 100 mmHg.

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Aims and Objectives

- The aim and objectives of the present case study is to find out the relationship between serum lipid profile of hypertensive patients with control in study area i.e., DG Khan.
- To find the prevalence of hypertensive patients in DG Khan.

Materials and Methodology

Study area

This study was conducted in Dera Ghazi Khan District Punjab Pakistan. A questionnaire was distributed among the participants. In this study 100 individuals were observed, who included 30 hypertensive and 70 were normal. These respondents were taken to the District Teaching Hospital and their blood samples were collected. These samples were analyzed in the lab of District Teaching Hospital DG Khan and Agha Khan blood collection centre.

Statistical analysis

The characteristics of the subjects are expressed as the median and range. A one-sample Kolmogorov-Smirnov test, calculated to assess normality, showed non-normal distribution of the parameters studied. Between-group differences were analyzed by the Mann-Whitney test and within-group differences by the Wilcoxon signed rank test. Differences were considered significant at a *p* value of ≥ 0.05. The variable "difference" (VD) for differential cell count, cytokines, and LTB4 was calculated by subtracting the value before SIC from the value after SIC. SPSS release 17.0 for Windows (SPSS; Chicago, IL) and GraphPad InStat4 (GraphPad Software Inc; San Diego, CA) were used for the statistical analyses [8-10].

Results

The study included 100 participants with a mean age ± SD of 50.0 ± 5.91 years. The mean SBP and DBP were 137.5 ± 9.61 mmHg and 94.5 ± 8.7 mmHg, respectively. The mean TC, HDL, and LDL were higher for males compared to females, which was statistically significant (P<0.05) (Table 1).

Indicators	Total (n=100) mean (SD)	Ranges	Male (n=60) mean (SD)	Female (n=40) mean (SD)	P-value
Age (in years)	50.00 (5.91)	(30-70)	30.00 (3.52)	20.00 (3.14)	0.325
Height (meter)	1.67 (0.59)	(1.82-2.03)	1.25 (0.32)	1.35 (0.45)	0.071
Weight (kg)	60.75 (7.34)	(41.7–72)	69.11 (6.19)	51.07 (8.09)	0.084
SBP (mmHg)	137.98 (9.61)	(107–153)	139.00 (11.12)	136.54 (10.11)	0.057
DBP (mmHg)	94.50 (8.84)	(86–111)	92.09 (7.45)	96.4 (8.23)	0.031
Total cholesterol	221.91 (4.11)	(211–229)	223 (4.75)	219.63 (3.91)	0.042
Triglyceride	166.64 (7.43)	(152–174)	169.19 (6.38)	163.75 (6.85)	0.005
HDL	42.11 (3.71)	(37–46)	46.19 (4.00)	38.19 (3.29)	0.002
LDL	138.19 (5.29)	(131–144)	141.09(4.55)	135.13 (3.69)	0.024

Table 1: Characteristics of the respondents.

The mean age ± SD of hypertensive patients and normal were 50.00 ± 4.06 and 35.4 ± 3.52 years, respectively. Serum levels of TC, TG, and LDL were 238.3 ± 3.4, 178.3 ± 6.3 and 151.3 ± 7.8 mg/dL, respectively in hypertensive subjects while in normal subjects, they were 187 ± 6.2, 141.5 ± 11.2 and 110.3 ± 6.3 mg/dL, respectively which were significantly higher in hypertensive patients (P<0.001). The serum HDL was significantly lower (P<0.001) in hypertensive patients (41.2 ± 3.2 mg/dL) than in normotensive subjects (44.3 ± 5.6 mg/dL). The mean SBPs of hypertensives and normotensives were 146.8 ± 8.5 mmHg versus 119.2 ± 9.3 mmHg, respectively and mean DBPs were 98.9 ± 7.3 mmHg versus 84.9 ± 5.3 mmHg, respectively. The mean SBP and DBP of hypertensives were higher than those of normotensives (P<0.001). Age, WC, and BMI showed significant association with hypertensive patients (P<0.001) but not with normal subject (Table 2).

Indicators	Hypertensive=30		Normal=70		P-value
	Mean (SD)	95% CI	Mean (SD)	95% CI	
Age (in years)	50.00 (5.91)	(30-70)	30.00 (3.52)	20.00 (3.14)	0.001
Height (meter)	1.67 (0.59)	(1.82-2.03)	1.25 (0.32)	1.35 (0.45)	0.001
Weight (kg)	60.75 (7.34)	(41.7–72)	69.11 (6.19)	51.07 (8.09)	0.001

SBP (mmHg)	137.98 (9.61)	(107–153)	139.00 (11.12)	136.54 (10.11)	0.001
DBP (mmHg)	94.50 (8.84)	(86–111)	92.09 (7.45)	96.4 (8.23)	0.001
Total cholesterol	221.91 (4.11)	(211–229)	223 (4.75)	219.63 (3.91)	0.001
Triglyceride	166.64 (7.43)	(152–174)	169.19 (6.38)	163.75 (6.85)	0.001
HDL	42.11 (3.71)	(37–46)	46.19 (4.00)	38.19 (3.29)	0.001
LDL	138.19 (5.29)	(131–144)	141.09(4.55)	135.13 (3.69)	0.001
Male n (%)	113 (71)	(30-70)	30.00 (3.52)	20.00 (3.14)	0.002*
Smoking n (%)	57 (36)	(1.82-2.03)	1.25 (0.32)	1.35 (0.45)	0.258*

Table 2: Anthropometric and biochemical characteristics of participants.

Binary logistic regression analysis showed TC was significantly associated with hypertensive patients and the odds ratio (or) was 1.1, 95% CI 0.91-1.77, P<0.002. TG and LDL were significantly associated with hypertensive patients (or 1.1, 95% CI 0.49-1.44, P<0.05 and/or 1.2, 95% CI 0.69-1.66, P<0.001, respectively). HDL was also associated with hypertensive patients (or 1.08, 95% CI 0.77-1.52, P<0.05). DBP showed significant association with hypertensive patients (or 1.7, 95% CI 0.33-3.29, P<0.05) (Table 3).

Indicators	Odds ratio	Confidence Interval	P-value
Total cholesterol (<200 mg/dL)	1.12	0.91-1.77	0.002
Triglyceride (<150 mg/dL)	1.13	0.49-1.44	0.048
HDL (60 mg/dL)	1.08	0.77-1.52	0.031
LDL (<100 mg/dL)	1.24	0.69-1.66	0.001
Sex (male)	0.98	0.41-1.12	0.221
SBP (<140 mmHg)	1.17	0.78-2.11	0.054
DBP (<90 mmHg)	1.74	0.33-3.29	0.044

Table 3: Binary logistic regression analysis for hypertensive and normal participants.

Discussion

This study was conducted in Dera Ghazi Khan District geographic region West Pakistan. The study enclosed one hundred participants with a mean age ± Coyote State of fifty 0 ± 5.91 years. The mean SBP and DBP were 137.5 ± 9.61 mmHg and ninety-four, 5 ± 8.7 mmHg, severally. The mean TC, HDL and low-density lipoprotein were higher for males compared to females, that was statistically important (P and lt; 0.05). Results of this study disclosed that the mean values of humour TC, TG, and low-density lipoprotein were considerably higher and statistically important among the hypertensive patients compared to normotensives.

The mean HDL level was lower within the hypertensives compared to normotensives and was statistically important [11-14]. The mean age ± Coyote State of hypertensive patients and traditional were fifty 00 ± 4.06 and 35.4 ± 3.52 years, severally. Humour levels of TC, TG, and low-density lipoprotein were 238.3 ± 3.4, 178.3 ± 6.3 and 151.3 ± 7.8 mg/dL, respectively in hypertensive subjects whereas in traditional subjects, they were 187 ± 6.2, 141.5 ± 11.2 and 110.3 ± 6.3 mg/dL, respectively that were considerably higher in hypertensive patients (P and lt; 0.001).

The humour HDL was considerably lower (P and lt; 0.001) in hypertensive patients (41.2 ± 3.2 mg/dL) than in normotensive subjects (44.3 ± 5.6 mg/dL). The mean SBPs of hypertensives and normotensives were 146.8 ± 8.5 mmHg versus 119.2 ± 9.3 mmHg, respectively and mean DBPs were ninety-eight 9 ± 7.3 mmHg versus eighty-four 9 ± 5.3 mmHg, respectively.

The mean SBP and DBP of hypertensives were beyond those of normotensives (P and lt; 0.001). Age, WC, and BMI showed important association with hypertensive patients (P and lt; 0.001) however not with traditional subjects [15-18]. Binary supply multivariate analysis showed TC was considerably related to hypertensive patients and also the odds quantitative relation (or) was one.1, 95% CI 0.91-1.77 and nbsp; P and lt; 0.002. TG and low-density lipoprotein were considerably related to hypertensive patients (or one.1, 95% CI 0.49-1.44 and nbsp; P and lt; 0.05 and/or one.2, 95% CI 0.69-1.66 and nbsp; P and lt; 0.001, respectively). HDL was conjointly related to hypertensive patients (or one.08, 95% CI 0.77-1.52 and nbsp; P and lt; 0.05). DBP showed important association with hypertensive patients (or one.7, 95% CI 0.33-3.29 and nbsp; P and lt; 0.05) [19-22].

An oversized scale study conducted in D.G Khan patients showed that the foremost rife abnormality in adults, aged 20-69 years, was cholesterin below zero 9 mmol/L (46.2% for men and twenty-eight.7% for women). Hypertriglyceridemia (and gt; 2.26 mmol/L) was the second most rife abnormality (24.3%).

Increased LDL (≥ 4.21 mmol/L) was ascertained in eleven.2% of the sample. half the hypertriglyceridemic subjects had a mixed dyslipidemia or low cholesterin. over five hundredth of the low HDL cases weren't involving hypertriglyceridemia. HDL and lt; 0.9 mmol/L was found in eighteen of diabetic and 12-tone system of nondiabetic subjects.

Previous studies showed the high rate of CVD mortality among South-East Asian compared to the remainder of the planet which majority of CVD deaths occur below the age of seventy [23-25] and nbsp; a good vary of risk factors for CVD has been studied in D.G Khan, however few studies have measured the association of CVD risk with cardiovascular disease and macromolecule profile.

A study in rural areas of D.G.K according that the prevalence of “high” TC concentration (and gt; 240 mg/dL or and gt; 6.2 mmol/L) in D.G K is regarding 17 November, “high” LDL (≥ 160 mg/dL or ≥ 4.2 mmol/L) is regarding two%, and “low” HDL (and lt;40 mg/dL or and lt;1.04 mmol/L) is regarding sixty seven.

Conclusion

The results of this study demonstrate that patients with hypertension are more likely than normotensive patients to exhibit dyslipidemia, including elevated TC, LDL, TG, and reduced HDL cholesterol levels. Our results suggest that elevated BP may predict certain disturbances in lipoprotein metabolism. This association will help to develop future strategies for preventing both hypertension and dyslipidemia through proper lifestyle changes or medical management or by the combination of both. Hypertensive patients need measurement of BP and lipid profile at regular intervals throughout their primary health care to prevent CVD and stroke.

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