Original Article

Prevalence of Risk Factors in Patients Presents with Unstable Angina

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ABSTRACT

Objective: The main objective of this study was to determine the prevalence of risk factors in patients presenting with unstable angina, presented at DUHS and BBSUL.

Study Design: Observational / cross-sectional study.

Place and Duration of Study: This study was conducted at the General Medicine and Cardiology Department of DUHS from March 2016 to March 2017.

Materials and Methods: 81 patients with unstable angina in General Medicine and Cardiology ward that fulfilled the inclusion and exclusion criteria and gave informed consent were enrolled for the study. Patients were evaluated for obesity, diabetes, hypertension and dyslipidemia.

Results: Total 81 patients with unstable angina were included in this study Out of them 43 (53.1%) were male and 38 (46.9%) were female. Mean age was 60.23 ± 8.7. Majority of patients (49.4%) were lying in 51 to 60 years age group. Raised blood sugar in 51(63%) patients, raised blood pressure in 46(56.8%) & low HDL in 43(53.1%) were more prevalent with other risk factors.

Conclusion: This study provides a quantitative estimate of the prevalence of risk factors like Diabetes, low HDL, hypertension, hypertriglyceridaemia and obesity strongly correlates with unstable angina.

Key Words: Unstable Angina, Obesity, Dyslipidemia

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INTRODUCTION

Coronary artery disease or atherosclerotic (CAD) is the number one killer in USA and world wide[1,2]. Acute coronary artery syndrome comprises the spectrum of unstable angina to aute myocardial infarction. In south asian countries mortality to CAD is high and angina is common manifestation of coronary artery disease[3,4]. Most of the peoples have identifiable risk factors for CAD. These include family history, male sex, dyslipidemia, DM, hypertension, obesity, cigarette smoking and too much alcohol[5]. Pakistan being as under developed country the population spend their most of the income for the treatment of coronary artery disease because of lack of knowledge and lack of awareness about these identifiable risk factors[6]. With this we gather the data how much prevalent of these risk factors in patients of unstable angina which is one of the variety of CAD.

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MATERIALS AND METHODS

This study was conducted at DUHS and BBSU, Karachi from March 2016 to March 2017.This was a cross sectional study 81patients were included in this study and sample size is calculated scientifically with confidence interval 95% and sample technique were Non-probability purposive sampling. The patients were included in this study who were diagnosed cases of unstable angina with age more than 15years. Patients were labeled unstable angina positive if ECG showed no ST segment elevation and cardiac enzymes levels were not raised and the patients were excluded frome the study who were already had type 1 diabetes, renal failure, Cushing syndrome, known Hypertension, patients were taking lipid lowering drugs & ECG changes not consistent with unstable angina.

Data Collection Procedure: Data was collected on a pretested self administered Performa after taking permission from ethical committee of the hospital. The purpose, procedure risks and benefits of the study were explained to the patients and informed consent was taken. 81 patients admitted with unstable angina fulfilling inclusion criteria were included in the study. Patient were interviewed and screened for risk factors like HTN, DM, Hyperlipidemia, and Obesity.

The socio-demographic data including age and sex was recorded as well. All data was collected by the researcher on structured Performa.

Blood Pressure was measured at the time of admission by taking 2 readings after 5 minutes interval by the same doctor (to reduce observer bias) and mean of both the readings was calculated, making patient sit comfortably back straight and arm at heart level, no coffee, tea, cigarette smoking half hour before.

Waist circumference was measured by measuring the smaller circumference of the waist, usually just above the belly button, and dividing by the hip circumference at its widest part of the hip i.e. waist circumference >102 cm in men and> 88 cm in women was taken as central obesity.

Blood was taken at the time of admission for lipid profile and rechecked after 14 hrs fast along with fasting glucose level. Strict aseptic measures were taken to reduce systematic bias.

Data Analysis: The data was entered by two people to control the bias and analyzed with the help of SPSS Program version 18.1. Mean and standard deviation of numerical variables like age, waist circumference, systolic and diastolic blood pressure, triglyceride level, High-density lipoprotein levels and fasting blood sugar was taken. Frequency and percentage was computed for categorical variables like Age group, sex, and presence of metabolic syndrome. Confounding effect was controlled through stratification of age and gender. Results were described and also presented in form of tables and graphs.

RESULTS

Total 81 patients with unstable angina were included in this study. Out of them 43 (53.1%) were male and 38 (46.9%) were female (table 1). Mean age was 60.23 ± 8.7. Majority of patients (49.4%) were lying in 51 to 60 years age group (figure 1).

Mean triglycerides level of the study population was 148.95+- 26.47(95-223). Thirty one (38.5%) patients with unstable angina had hypertriglyceridemia among them 18(58.1%)were males and 13(41.1%)were females this difference was not statistically significant(p value- 0.480). Among 31 patients 15(48.4%) were in age group between 51- 60 years and that shows statistically significant(p value- 0.007) table no: 3. Mean HDL level was 45.16±10.37(26- 68).

Table No.1: Frequency of Gender: Total no: 81

Sex	Frequency	P- value
Male	43(53.1%)	0.018
Female	38(46.9%)	

Forty three patients had low HDL among them 26(60.5%) were males and 17(39.5%) were females that show stastically in significant (p value- 0.157). Mean FBS was 137.42+- 65.078 (61-334). Fifty one (63%) were had hyperglycemia among them 30(58.8%) were males and 21(41.2%) were females and that shows statistically insignificant p value- 0.177 and out 51 patients 18(35.3%) patients were in age group of 51- 60 years and that shoes statistically significant p value- 0.019. (table 3). Mean Systolic blood pressure of the study population was 139.20±24.3(100-200) and mean diastolic blood pressure was 87.47±13.1(60-115). Forty six patients had high blood pressure among them 23(50%) were males and 23(50%) were females with insignificant p value- 0.523. Out of 43 patients 14(30.4%) were in age group of 51-60 years and that shows significant p value- 0.001. table 3. Mean Waist was 92+- 11.24(71-113). Twenty seven patients were obese 16(59.3%) were males and 11(40.7%) were females that show insignificant p value- 0.431. Eleven patients(40.7%) out of 27 obese patients were in age group of 51-60 years and that shows statistically significant p value- 0.001. table 3.

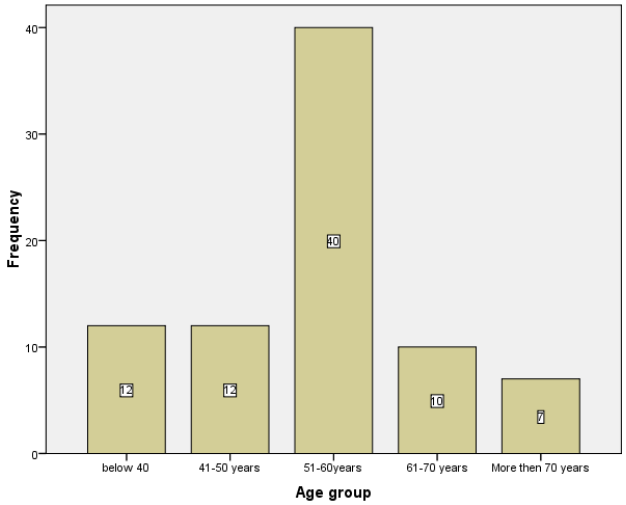

Figure No.1: Age Distribution In Different Age Groups

Table No. 2: Frequency of risk factors in patients with unstable angina

Variables	Mean	Male	Female	P-value
Trigly-cerides	148.95± 26.47	18 (58.1%)	13 (41.9%)	0.480
HDL	45.16± 10.37	26 (60.5%)	17 (44.7%)	0.157
FBS	137.42 ±65.078	30 (58.8%)	21 (41.2%)	0.177
HTN	SBP 139.20 ±24.3% DBP 87.47 ±13.1	23 (50%)	23 (50%)	0.523
Obesity		16 (59.3%)	11 (40%)	0.431

Table No. 3: Frequency of Different risk factors in patients with unstable angina in age group of 51-60 years.

Variable	Total no:	Patients of age group 51-60 years	P- value
Hypertrigly-ceridaemia	31 (38.5%)	15(48.4%)	0.007
Low HDL	43 (53.1%)	24(55.8%)	0.010
Raised fasting blood sugar	51 (63%)	18(35.3%)	0.019
HTN	46 (56.8%)	14(30.4%)	0.001
Obesity	27 (33.3%)	11 (40.7%)	0.001

DISCUSSION

South Asians undergo higher coronary heart disease mortality contrast with native majority[7,8]. It was earlier reported inside the whole cohort that South Asian subjects had an increased prevalence of hypertension, diabetes and a high-risk lipid profile despite of adjusting for socioeconomic class. South Asians have been reported as having atypical features when presenting with chest pain.

The variable association between cardiovascular risk factors and the presence/absence of chest pain remind clinicians that at the initial stage of disease, risk factors in populations studied may not be a substitute for true angina. The presence of diabetes mellitus has similarly been reported to not be a strong predictor for serious coronary outcomes (e.g. nonfatal myocardial infarction and cardiac death) in patients at an initial stage of the natural history of the disease (e.g. asymptomatic diabetes)[9]. Thus, the chest pain history should be emphasis by the clinicians, over risk factor profile for assessment of prognosis at this initial stage of cardiovascular disease[10,11].

Evidence for altered perception of angina in diabetes is mixed, with not all studies showing associations with silent ischaemia[12]. The majority of patients with diabetes experience angina in the same way as those without diabetes[13,14].This study not go for serum cholesterol including low density lipoprotein along with evaluation of type A personality.

Our study specifically focus on age group & it shows that incidence of ischemic heart disease is more common in age group 51 to 60 figure 1, moreover among risk factors low high density lipoptotein is independent most important risk factor responsible for unstable angina in same age group table no 3 (p value 0.010).

CONCLUSION

This study provides a quantitative estimate of the prevalence of risk factors like Diabetes, low HDL, hypertension, hypertriglyceridaemia and obesity strongly correlates with unstable angina.

Author's Contribution:

Concept & Design of Study:	Babar Bashir
Drafting:	Arshad Ali
Data Analysis:	Syed Shayan Ali, Munir Hussain Siddiqui
Revisiting Critically:	Babar Bashir, Arshad Ali
Final Approval of version:	Babar Bashir

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

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