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Prevalence of Newly Diagnosed Essential Hypertension in Patients of Bhuj, Kutch- A Prospective Study

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ABSTRACT

Background and Aim: Hypertension is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease deaths. Hypertension is present in 25% of adults and increases in prevalence with age. The aim of the present study is to describe the overall clinical profile of newly diagnosed essential hypertension subjects in order to recognize this condition as early as possible.

Material and Method: Sixty five recently diagnosed essential hypertensive patients attending the medicine OPD or admitted to the medical wards of formed the study group. Thirty healthy people were kept as controls. Patient's height and weight were measured. The body mass index was calculated using the formula weight / height.[2] Blood pressure was recorded by taking two readings, separated by as much time as practical.

Results: Among 95 subjects studied, 65 were cases (Hypertensive) and 30 were controls (Normotensive). There was no statistical significance in the systolic and diastolic blood pressure among the cases. Difference in BMI between cases and controls was statistically significant ($p \leq 0.05$) and independent of gender, but it was significantly more in those with grade II hypertension.

Conclusion: BMI was significantly more in those with stage II hypertension however it was independent of gender. The blood pressure correlated positively with BMI and waist circumference. The most frequent presenting symptom was giddiness.

Keywords: *BMI, Control, Giddiness, Gender, Hypertension*

INTRODUCTION

Hypertension is a major cardiovascular risk factor and important public health problem in the Indian subcontinent and among the South Asians world-wide.[1,2] According to WHO 2008 estimates prevalence of hypertension in Indians was 32.5%. However, only about 25.6% of treated patients had their blood pressure under control. It remains the major risk factor for coronary, central and peripheral vascular disease. Essential hypertension comprises more than 90% of hypertension.[3] Hypertension is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease deaths. This fact is important because hypertension is a controllable disease and a 2 mm Hg population wide decrease in blood pressure can prevent 1,51,000 strokes and 1,53,000 coronary heart disease deaths in India.[4,5] Awareness status of hypertension in India is poor. Hypertension is present in 25% of adults and increases in prevalence with age. Adequate hypertension control remains elusive because of the asymptomatic nature of the disease for the first 15 – 20 years even as it progressively damages the cardiovascular system.[6] In this study we made an attempt to describe the overall clinical profile of newly diagnosed essential hypertension subjects in order to recognize this condition as early as possible.

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MATERIALS AND METHOD

Sixty five recently diagnosed essential hypertensive patients attending the medicine OPD or admitted to the medical wards of formed the study group. Thirty

healthy people were kept as controls. This control group comprised of normotensive individuals who were attendants of patients with primary hypertension living in the same environment other than their own siblings.

Inclusion criteria:

1. Patients with newly diagnosed primary hypertension, above 18 years were included.

2. Both sexes were included.

Exclusion Criteria:

1. Patients below 18 years and adults with other co morbidities such as malignant hypertension, renal failure, secondary hypertension, peripheral vascular disease, diabetes mellitus, thyroid and parathyroid disorders.

2. Patients on NSAIDS, diuretics, beta blockers or stimulants, on oral contraceptive medication.

All the patients were subjected to detailed history taking, careful physical examination.

Patient's height and weight were measured. The body mass index was calculated using the formula weight / height.[2] Patient's hip and waist circumferences were measured. All the peripheral pulses were checked with special attention to carotid and the femoral to detect evidence for early atherosclerosis. An ocular fundus examination was done to detect hypertensive retinopathy. Patients were informed to refrain from smoking or drinking tea or coffee for at least thirty minutes before measuring blood pressure. Blood pressure was recorded by taking two readings, separated by as much time as practical. If the readings vary by more than 5 mm Hg, additional readings were taken until the two are close and pressure in both were recorded and the arm with higher pressure was finalised.

Essential Hypertension:

Hypertension was defined in accordance to the JNC-VIII report as systolic blood pressure 140 mm of Hg and above and or diastolic blood pressure 90 mm of Hg and above. The diagnosis that the hypertension is essential and not secondary was made on the overall clinical impression only.[7]

RESULTS

Among 95 subjects studied, 65 were cases (Hypertensive) and 30 were controls (Normotensive). 55 were males and 40 were females. Out of 65 cases 54.2% were males, 45.4% were females. Among controls 66.8%) were males and 33.2% were females. The mean age of the cases and controls were 53.2 ± 5.45 years and 51.7 ± 5.34 years respectively. The study group and the control group did not differ from each other statistically with reference to age. Majority of the patients in both the study and control group lie between 41 and 60 years. There was no significant difference in the age composition of those with and without hypertension in this study. The mean age for males in the case and control groups was 51.62 ±5.34 years and 49.00 ±5.66 years respectively. The mean age for females in the case and control groups was 51.99 ±5.94years and49.24 ±6.67 years respectively.

Blood Pressure Distribution:

The mean SBP and DBP for the cases was 162.705±7.064 mm of Hg and 103.45±5.184 mm of Hg respectively. There was no statistical significance in the systolic and diastolic blood pressure among the cases. In this study patients with Grade II hypertension were significantly higher than Grade I hypertension.

Obesity

34.3% of cases were obese while in the control group obesity was noticed in 3.3%. The mean BMI among the cases was 23.73 ± 3.28 and among controls, was 21.36 ± 2.12. Difference in BMI between cases and controls was statistically significant ($p \leq 0.05$) and independent of gender, but it was significantly more in those with grade II hypertension.

Table 1: Distribution of cases and controls with respect to BMI

BMI	Cases		Controls	
	Number	%	Number	%
Under weight<18.5	7	10	3	10
Normal weight18.6-22.9	24	34.3	20	66.7
Over weight23-24.9	15	21.4	6	20
Obese>25	24	34.3	1	3.3
Total	70	100	30	100

Presenting Symptoms

The most frequent presenting symptom was giddiness. The other symptoms were in the order of headache, chest pain, palpitation and dyspnoea. History of headache and chest pain was noticed among men with very high blood pressure. In comparision history of palpitations was draw out more among women.

DISCUSSION

Hypertension is an emerging health problem in India. When majority of people come to know that they have hypertension they have already advanced into a stage with target organ damage – a fatal stroke or myocardial infarction or irreversible renal failure. Although our understanding of the pathophysiology of hypertension has increased in 90% to 95% of cases, aetiology is still mostly unknown.[8]

In our study most of cases were in group of 50-60 years. 34.3% of cases were. The mean BMI among the study group was 25.60± 1.46 and among the control group was 23.54 ± 1.22. This shows that overweight and obesity also plays a role in the development of essential hypertension. In INTERSALT, the relationship between body mass index (kg/m2) and blood pressure was studied and found that BMI was positively associated with systolic blood pressure among men and women. BMI was positively associated with diastolic blood pressure in men and women.[9] This was also supported by a study conducted by Stamler.[10] They showed that the hypertension is about six times more common in obese than it is in lean subjects. The present study concurs with above observation. In further analyses across centers, median body mass index was related significantly to median systolic blood pressure, median diastolic pressure and the prevalence of hypertension in both men and women. Body mass index was related to the slopes of systolic and diastolic blood pressure with age in women, but not in men.

In our study the most common presenting symptom was giddiness Dr.Uday's Bandl Et al described that most widespread symptom was headache.[11] The Mean SBP, DBP were slightly higher in our study in comparison to the study conducted by Singh et al (2013) the mean SBP among cases-156.32±15.37 mm of Hg and DBP-99.49±7.63 mm of Hg among controls –mean SBP-118.53±10.56 mm of Hg, Mean DBP- 79.93±4.45 mm of Hg12.

CONCLUSION

BMI was significantly more in those with stage II hypertension however it was independent of gender. The blood pressure correlated positively with BMI and waist circumference. The most frequent presenting symptom was giddiness. Public should be educated regarding the importance of identifying the early manifestations of hypertension and recording of blood pressure which can help in early detection and prevention of complications of hypertension.

Ethical Clearance- Taken from institutional ethical committee of the institute and written informed consent was taken from the participants

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Conflict of Interest: None declared

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