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Cardiology

A PROSPECTIVE STUDY OF CLINICAL PROFILE OF NEWLY DIAGNOSED ESSENTIAL HYPERTENSION.

Venkata Ravikumar Chepuri* MD, Assistant Professor, Rajiv Gandhi institute of Medical Sciences, Kadapa. AP. *Corresponding Author

Himabindu Panta MD, Postgraduate [Final Year], Rajiv Gandhi institute of Medical Sciences, Kadapa. AP.

ABSTRACT

BACKGROUND: Hypertension is one of the leading causes of death and disability among adults all over the world. According to WHO 2008 estimates prevalence of increase in blood pressure in Indians was 32.5%(33.2% in men 31.7% in women).

METHODOLOGY: To determine the clinical profile of newly diagnosed essential hypertensive patients, a prospective case control study was carried out during the period February 2015 to January 2016 in the department of General medicine, Rajiv Gandhi Institute of Medical Sciences and Medical college, Kadapa,A.P.

RESULTS: Out of 70 cases 38(54.3%) were males, 32(45.7%) were females. The mean systolic blood pressure for the cases was 162.705±7.064 mm of Hg and the mean diastolic blood pressure for the cases was 103.45±5.184 mm of Hg. 34.3% of cases were obese while in the control group obesity was noticed in 3.3%. BMI was independent of gender, but it was significantly more in those with grade II hypertension.

CONCLUSION: The blood pressure correlated positively with BMI and waist circumference. The most common presenting symptom was giddiness. Identifying the early manifestations of hypertension helps in early detection and prevention of complications.

KEYWORDS : ESSENTIAL HYPERTENSION, BMI, WAIST CIRCUMFERENCE.

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%(33.2% in men 31.7% in women). 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.

MATERIALS AND METHODS

70 newly diagnosed essential hypertensive patients attending the medicine OPD or admitted to the medical wards of Rajiv Gandhi Institute of Medical Sciences hospital from February 2015 to January 2016 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 comorbidities 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]

OBSERVATIONS:

Among 100 subjects studied, 70 were cases (Hypertensive) and 30 were controls(Normotensive). 58 were males and 42 were females. Out of 70 cases 38(54.3%) were males, 32(45.7%) were females. Among controls 20(66.7%) were males and 10(33.3%) were females. The mean age of the cases and controls were 53.1 ± 5.37 years and 51.5 ± 5.38 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 51.68 ±5.31 years and 48.95 ±5.61 years respectively. The mean age for females in the case and control groups was 52.06 ±5.98years and49.21 ±6.65 years respectively. Out of 100 patients in this study patients (%) were of age > 50 years. Alcoholism and smoking were noticed among men only, statistical analysis was not attempted for these risk factors.

Table-1 Distribution of cases and controls in relation to age and gender

Age group	Cases		Controls	
	Number	%	Number	%
41-50	24	34.3	18	60
51-60	46	65.7	12	40
Total	70	100	30	100
Sex				
MALE	38	54.3	20	66.7
FEMALE	32	45.7	10	33.3
TOTAL	70	100	30	100

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. The mean SBP and DBP distribution for the males was 172.63±16.71 mm Hg and 103.42±7.08 mm Hg respectively and for females the mean SBP and DBP distribution was 171.56±13.22 mm Hg and 103.13±4.71 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. 'p' value = 0.00004. This shows that the difference in BMI between cases and controls was statistically significant and independent of gender, but it was significantly more in those with grade II hypertension.

Table-2.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 common 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 contrast history of palpitations was elicited more among women.

Table-3.Analysis of presenting symptoms

SYMPTOMS	MALE	FEMALE	TOTAL
Nil	1	1	2
Headache	7	1	8
Giddiness	18	19	37
Chest pain	6	3	9
Palpitation	4	8	12
Dyspnoea	2	0	2

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 centres, 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. But in Dr.Uday's Bandl Et al study most common 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 Hg[12].

CONCLUSION

The following were derived from our study, 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 common 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.

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