



CLINICAL STUDY OF HYPERTENSIVE CRISIS IN A TERTIARY CARE HOSPITAL OF MAHARASHTRA .

General Medicine

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KEYWORDS

INTRODUCTION -

Hypertension is one of the most important communicable disease in India with an estimated burden of 200 million people. Hypertension prevalence is on increasing trend in India due to urbanization, changing dietary pattern, improving socio- economic status, sedentary life style ,obesity and smoking. Urban – rural convergences and greater hypertension in young population are also increasing. But still, awareness about disease, its natural course ,prevention , treatment & complications are lower even in urban population¹.

As per the WHO health report hypertension is directly responsible for 57% of all stroke death and 24% of all coronary heart disease death in India. Cardiovascular disease leads to 2.3 million death in India in the year 1990 , this is projected to double by year 2020. Other than coronary heart disease & stroke hypertensive complications include heart failure, peripheral vascular disease, renal impairment, retinal haemorrhage and visual impairment.

Hypertension is defined as abnormally high arterial pressure. According to Joint National committee 8 (JNC 8) , normal systolic blood pressure is <120 mmHg and diastolic blood pressure is <80 mmHg. Hypertension is defined as systolic blood pressure is > 140 mmHg and diastolic blood pressure is >90 mmHg in 18 -59 yrs of age and above 60 yrs with comorbidities. And above 60 yrs of age without comorbidities it is > 150 & > 90 mmHg respectively.

The grey area falling between 120 -139 systolic & 80 -89 mmHg diastolic is Prehypertension. Through prehypertension is not a medical condition but this subjects are at more risk of developing Hypertension . It is silent killer as very rarely any symptoms can be seen at early stages until patient lands up into severe medical crises like hypertensive encephalopathy, intracerebral haemorrhage, subarachnoid haemorrhage, coronary heart disease & stroke. Though hypertension is chronic condition leading to damage of blood vessels and organs over years. However in certain cases BP may rise precipitously and severe enough called as “hypertensive crises”. These crises can present as “hypertensive emergency ” or as “hypertensive urgency”.²

Hypertensive emergency (HTN –E) in which elevated (blood pressure > 180/120 mmHg) was related with one or more of the following types of acute or ongoing target organ damage (TOD): stroke (cerebral infarction or hemorrhage); hypertensive encephalopathy; subarachnoid hemorrhage; acute pulmonary edema, acute myocardial infarction; transient ischemic attack; acute heart failure; progressive renal insufficiency as well as features suggestive of retinopathy. Hypertensive urgencies (HTN-U) are those situations associated with severe elevations in BP without progressive TOD. It is approximated that 1% of patient with hypertension develop hypertensive crises during their life time. Majority of hypertensive crises are consequence of inadequate medical treatment.³

If there crises are treated in time with urgent active intervention with the use of IV/ oral anti hypertensive medications, HTN-E need not to be considered as malignant. Data from recent studies suggest that in hospital and 1 year mortality of HTN-E were 13% & 39% respectively. Thus attempt should be made to treat HTN-E on priority basis to reduce morbidity and mortality.⁴

In HTN –U , treatment is slowly reduction of BP over 24 hrs. National guidelines support a cautious approach to the treatment of hypertensive urgency. The seventh Report of the Joint National Committee on Detection, Evaluation, and Treatment of Hypertension, published in 2003, noted that “patient with markedly elevated BP but without acute target-organ damage usually do not require hospitalization, but they should receive immediate combination oral antihypertensive therapy” and that “there is no evidence to suggest that failure to aggressively lower BP in the [emergency department] is associated with any increased short-term risk to the patient who presents with severe hypertension.” JNC 7 also laments contemporary terminology: “Unfortunately, the term ‘urgency’ has led to overly aggressive management of many patients with severe, uncomplicated hypertension. Aggressive dosing with intravenous drugs or even oral agents, to rapidly lower BP is not without risk.” The most recent JNC guideline does not comment on hypertensive urgency, and the 2017 American College of Cardiology/American Heart Association Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults argues that, “...there is no indication for referral to the emergency department, immediate reduction in BP in the emergency department, or hospitalization for [patients with hypertensive urgency]”⁴

Present study intends to generate information on prevalence of hypertensive crises in tertiary care hospital in Maharashtra and also find out awareness of the patients about prevention, natural course , treatment & complication of hypertension.

MATERIAL & METHODS

A clinical prospective study was conducted in a tertiary care hospital from January 2016 to June 2018 for a period of 2 years. All patients who were more than 18 years who presented to the hospital with blood pressure >180/120mmHg to the emergency, outpatients, and inpatients were included. A thorough history was taken and clinical examination was done at the time of admission. Anthropometric measurement as height , weight, BMI, and waist circumference were calculated and all the appropriate diagnostic tests (Complete blood picture and complete urine examination, lipid profile, fundus examination, ECG, chest X ray PA view) were done. Troponin was performed when acute coronary syndrome was suspected, and computed tomography was done when brain damage was suspected in view of stroke. Blood pressure was measured by using mercury sphygmomanometer in both supine as well as in standing position and average of three BP measurements is obtained.

RESULTS

Among 100 patient of hypertension screened with HTN-C , 68 were enrolled as HTN -E and 32 as HTN -U. 72% patient were k/c/o HTN and 28 % were newly detected hypertensive admitted with HTN-C.

53% were females and 47% were males. Most of the patients were in 50 -59 yrs.

Age distribution of patients with HTN-C

20 -29 yrs	1
30-39 yrs	4
40-49 yrs	30
50-59 yrs	36
60-69 yrs	20
70-79 yrs	5
80-89 yrs	4

95% of patients were married and one third belongs to upper socio - economic class. ($p < 0.001$)

15% of patients were illiterate , 20% had primary education , 28% secondary education and graduate & above population was 34%.

Obesity is found in 48% of patients of which females were predominantly having abdominal obesity.

Sedentary life style is found in 52% patients.

42% of patients were having addiction either of alcohol or smoking.

Awareness about hypertension and its complications were found in only 60% . that is probable reason for non -compliance to treatment which is found to be 28% in our study.

Table 2 Presenting complaints in pts with HTN-C

Symptom	No of patients
Headache	52
Vomiting	50
Dysnponaea	26
Chest pain	42
Motor weakness	14
Palpitations	12
Giddiness	10
Asymptomatic	8

Table 3: Target organ damage in HTN -E

Target organ damage	No of patients
Acute Myocardial infarction	22
Left ventricular failure	16
Intracerebral bleed	14
Cerebral infraction	12
TIA	4
SAH	2
Hypertensive encephalopathy	2

DISCUSSION-

In this present study , 53% females and 47% males were affected with HTN -C. Aonther studies done by Martin et al⁵ and Zamapaglione et al⁶ showed increased incidence of HTN-C in males. This is in contrary to our study we found more incidence in females possibly because of obesity, less awareness, illiteracy and more tendency to neglect own health.

Most of the patients were in the age group of 50 -59 yrs followed by 60-69 yrs. As age is one of the important risk factor. Similar results were found in the study done by Varun MS et al in South India.⁷

In this study we found low literacy level and low income group were associated with hypertension. Though high income group have more sedentary life style leading to obesity and HTN, but they also tends to have more knowledge and awareness which leads to healthy lifestyle & better compliance to treatment.

In our study we found 48% of healthy population having active life style also suffered from HTN-C. the exact reason behind this is unknown. Similar results were found in study done by Singh et al in urban Varanasi.

Headache and vomiting were most common symptoms in our study. Study by Salagre et al also found similar results.⁸

Prima et al⁹ reported stroke incidence of 22%, myocardial infarction 17% and hypertensive encephalopathy in 4.9% . while in our study we found more cardiovascular events than neurological complications.

CONCLUSION

Hypertension is one of the most common non communicable disease in India. As prevalence of HTN is increasing, incidence of HTN -Crises are also increasing thus increasing the medical emergencies , target organ damage and associated mortality. This all can be prevented by increasing awareness among hypertensive patients by educating them about course of disease, benefit of treatment, morbidity and mortality of complications. By simply emphasizing on importance of compliance to drugs and adopting healthy life style these hypertensive crises can be reduced.

Ethical approval: The study was approved by the Institutional Ethics Committee.

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