

## ORIGINAL RESEARCH

**Clinical profile of hypertension in the elderly presenting in emergency department****<sup>1</sup>Dr. Rimratbir Singh Bajwa, <sup>2</sup>Dr. Surinder Pal Singh**<sup>1,2</sup>Assistant Professor, Department of Medicine, GMC, Amritsar, Punjab, India**Corresponding author**

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Received: 11 July, 2022

Accepted: 12 August, 2022

**Abstract**

**Introduction:** Hypertension is one of the most important public health problems in the developing as well as the developed countries. Uncontrolled hypertension in the elderly is a major risk factor for different complications like cardiovascular and cerebrovascular.

**Aim:** To study the profile of elderly hypertensive presenting in the emergency

**Material and methods:** A study was carried in emergency of a tertiary care hospital of Punjab, North India. One hundred elderly hypertensive patients (age > 60) who were admitted through the emergency were included in the study. The patients were classified as per JNC VII. The required investigations were performed and the data was collected and analysed.

**Result:** The percentage of male hypertensive was (47%) and females was (53%). The cardiovascular complications were in the form of angina (26%), myocardial infarction (11%) and congestive heart failure (22%), the cerebrovascular complications were thrombotic stroke in (16%) and haemorrhagic stroke in (9%).

**Conclusion:** Our study revealed that uncontrolled hypertension in the elderly leads to multiple cardiovascular and cerebrovascular complications. Strategy should be identified to diagnose and treat hypertension at an early stage and prevent or postpone its complications in this age group.

**Keywords:** Hypertension, Elderly, Cardiovascular, Angina, cerebrovascular, stroke, myocardial infarction.

**Introduction**

Hypertension is one of the most important public health problems in the developing as well as developed world. In most cases it remains undetected, silent and has been labelled as the "silent killer". The incidence of hypertension varies with age, 30-40% of men and women above 70 years of age, irrespective of race and country of origin are likely to have hypertension. It is an important risk factor for both stroke and coronary heart disease.<sup>1</sup>

The increase in longevity due to improvement in socio-economic conditions and health care facilities has led to a surge in elderly population (>60 years) as well as in related illness such as cardiovascular diseases worldwide including India.

The relationship between blood pressure and risk of cardiovascular disease (CVD) events is continuous, consistent and independent of other risk factors. The higher the blood pressure, the greater the chances of myocardial infarction, heart failure, stroke and kidney disease. For individuals aged 40 to 70 years, each increase of 20mmHg in systolic blood pressure or 10mmHg in diastolic blood pressure doubles the risk of CVD across the entire BP range from

115/75 to 185/115mmHg. Hypertension has been reported in 40-48% geriatric patients in India.<sup>2</sup> It is the commonest risk factors present for coronary artery disease in this population.<sup>3</sup>

### Aims and objectives

To study the clinical profile of hypertension in elderly subjects presenting to the emergency with the following aims:

- Type of hypertension in the elderly
- Severity of hypertension in the elderly and associated complications

### Materials and methods

One hundred patients who were known hypertensives above the age of 60 years and presented to the emergency in a Tertiary Care Hospital of Punjab, North India were selected for the study. Examination included general physical and systemic examination. Recording of blood pressure using mercury sphygmomanometer was done. Investigation including CBC, S. Cholesterol, Blood Urea, Serum Creatinine, Urine analysis, 12 lead ECG and wherever required x-ray chest and 2-D echocardiography was done. Hypertension were classified as per JNC VII.

#### JNC VII

BP Classification	SBP mmHg	DBP mmHg
Normal	<120	<80
Prehypertension	120-139	80-89
Stage I	140-159	90-99
Stage II	>160	>100

### Observations and results

**Table 1: Showing sex wise prevalence**

Sex	No. of cases	Percentage (%)
Male	47	47.00
Female	53	53.00
<b>Total</b>	<b>100</b>	<b>100.00</b>

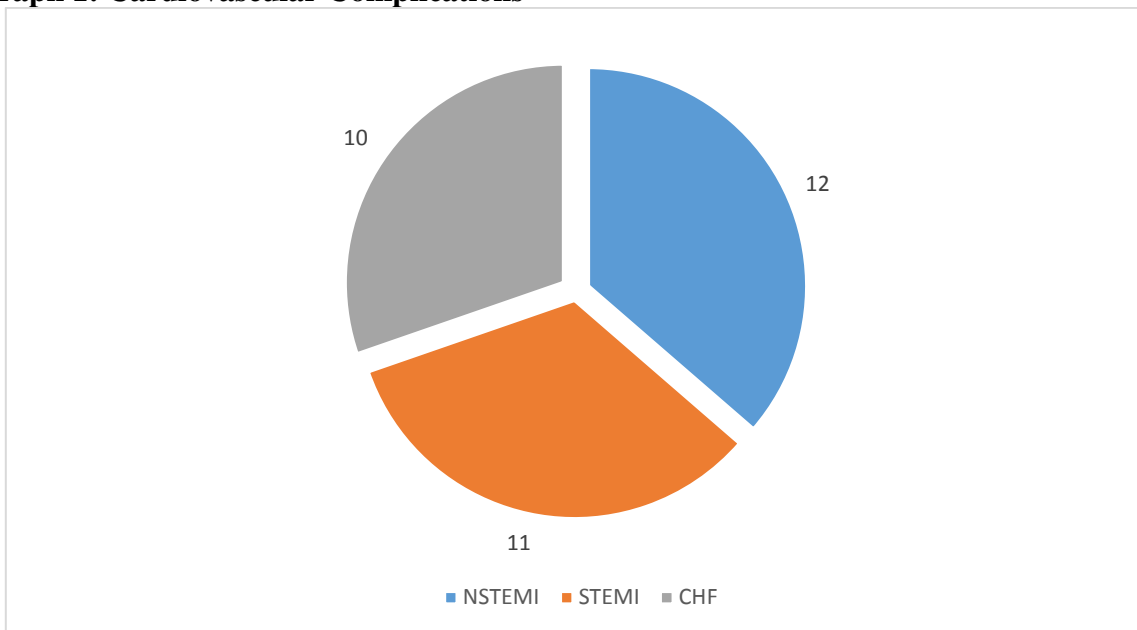
**Table 2: Showing age wise distribution**

Age Group	No. of cases		No. of cases	
	Male	Female	Total	
<b>60-64</b>	11	17	28	28.00
<b>65-69</b>	20	17	37	37.00
<b>70-74</b>	8	9	17	17.00
<b>75-79</b>	3	6	9	9.00
<b>Above 80</b>	5	4	9	9.00
<b>Total</b>	<b>47</b>	<b>53</b>	<b>100</b>	<b>100.00</b>

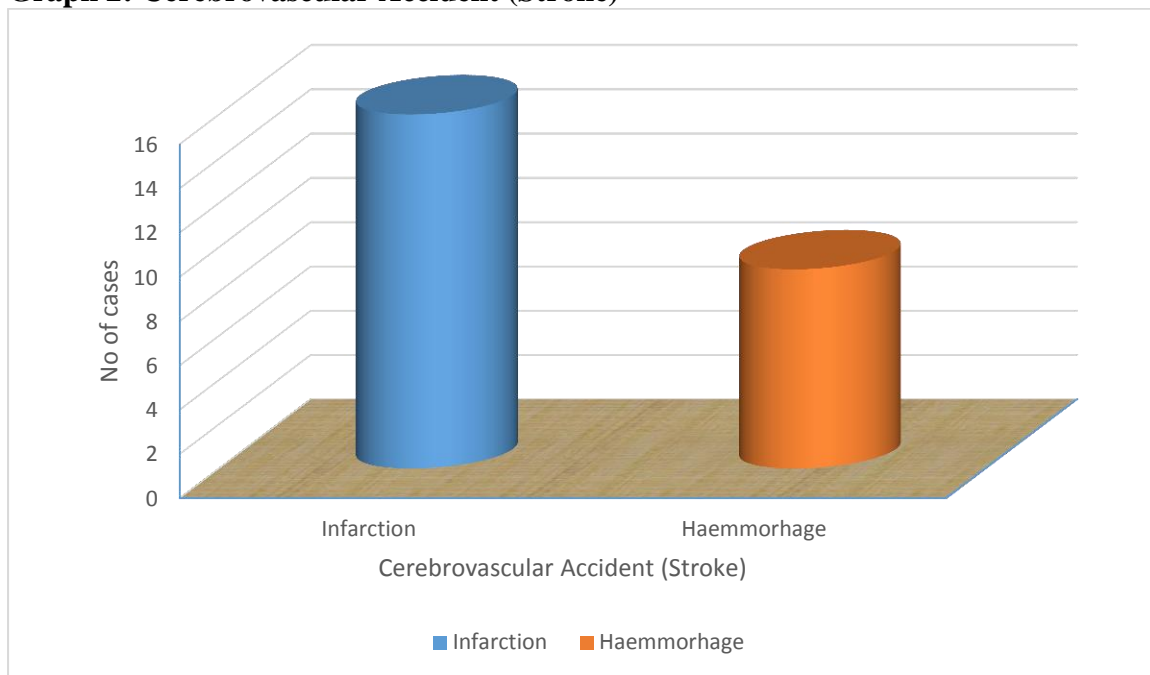
**Table 3: Showing prevalence of diabetes mellitus**

Sex	No. of cases	Percentage (%)
Male	18	18.00
Female	18	18.00
<b>Total</b>	<b>36</b>	<b>36.00</b>

**Graph 1: Cardiovascular Complications**



**Graph 2: Cerebrovascular Accident (Stroke)**



**Table 4: Showing grading of hypertension**

Category	No. of cases	Percentage (%)
Stage I	29	29.00
Stage II	71	71.00
<b>Total</b>	<b>100</b>	<b>100.00</b>

**Table 5: Showing mortality due to various causes**

Disease	No. of cases		Total
	Male	Female	
Myocardial	2	1	3

<b>infarction</b>			
<b>Stroke</b>	5	2	7
<b>CHF</b>	1	2	3
<b>Acute on chronic renal failure</b>	0	1	1

In our study the percentage of male hypertensives was 47% and 53% were elderly hypertensives females. (Table 1)

The highest prevalence of hypertensive who presented in the emergency was in the age group of 65-69 i.e. 37%. (Table 2)

18% of males and 18% of female were also known cases or newly detected as type II diabetes mellitus. (Table 3)

The cardiovascular complications were NSTEMI (12%), STEMI (11%) and congestive heart failure (10%). (Graph 1).

As per the grading of hypertension followed (JNC VII) the distribution was Stage I (29%) and Stage II (71%).

The cerebrovascular complications were as thrombotic stroke (16%), and haemorrhagic stroke (9%). (Graph 2)

The leading cause of mortality was detected to be as cerebrovascular complications i.e. stroke (7%).

### Discussion

Increase in blood pressure levels with ageing and its adverse impact has been reported in many studies conducted in different parts of the globe.<sup>4</sup>

Impaired left ventricular function plays an important role in the causation of cardiovascular disorders such as hypertension, ischemic heart disease and congestive heart failure commonly seen in the elderly.<sup>5</sup>

Patients with uncontrolled hypertension had an increased incidence of cardiovascular and cerebrovascular complications.<sup>6</sup>

The higher mortality of subjects that start hypertension treatment after 65 years of age is indicative of the need to detect and treat hypertension at the earliest possible moment.<sup>7</sup>

### Conclusion

With an increase in life expectancy the elderly population is increasing and hypertension in the elderly leads to an increase in cardiovascular and cerebrovascular morbidity and mortality. So early diagnosis and proper management of hypertension in the elderly will not only decrease the risk of cardiovascular diseases but also prolong their lives.

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