



ORIGINAL RESEARCH PAPER

General Medicine

A STUDY OF CLINICAL PROFILE OF HYPERTENSION IN ELDERLY PATIENTS AT TERTIARY CARE CENTER, BELAGAVI.

KEY WORDS: Hypertension, Elderly, Isolated systolic hypertension, retinopathy.

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ABSTRACT

Introduction: Hypertension is a major health problem worldwide and its complications have significant socioeconomic impact. Elderly persons with untreated hypertension are at higher risk of suffering from stroke and other major cardiovascular events. Knowledge of the extent of the problem in a region helps in taking the preventing measures. Aim: To study the clinical profile of elderly patients with hypertension at a tertiary care hospital.

Material and Methods: All patients above the age of 60 years, irrespective of their hypertensive status were included in this study. All patients were classified according to blood pressure readings. In all patients, ECG and fundus examination was done. 2D Echo was done whenever necessary.

Results: Of the 130(65%) hypertensive patients, 78 (60%) were males and 52 (40%) were females. The most common presentation was fatigue(40%), followed by headache(20%), angina(18%) and giddiness 13% and 5% were asymptomatic. Isolated systolic hypertension was diagnosed in 33 (25%) patients. Hypertensive retinopathy was found in 88(42%) patients and dyslipidemia was found in 47 (23.5%) patients.

Conclusion: The degree of risk from hypertension can be categorized with reasonable accuracy by taking into account the level of blood pressure and the biological aggressiveness of the hypertension. The present study reiterates the need for early detection, assessment of overall cardiovascular risk and treatment of hypertension in the elderly.

INTRODUCTION:

Hypertension is a major health problem worldwide and its complications have significant socioeconomic impact. Hypertension is well known to be one of the major risk factors for stroke, coronary heart disease and renal failure¹. Therefore prevention and treatment of hypertension and the associated target organ damage remains important public health challenges.

As per the global demographic trends, the proportion of elderly people is projected to increase to 12% of the world wide population that is 973 million in the year 2030. The Indian scenario is similar, elderly people constitute 7.2% of the population and it is projected to increase to 12% of the population in the year 2030^{2,3}. As the population grows older, the incidence of hypertension, continues to increase in the developed and developing societies.

Elderly persons with untreated hypertension are at higher risk of suffering from stroke and other major cardiovascular events⁴. The cardiovascular and cerebrovascular risks associated with hypertension are greater in the elderly than with their younger counterparts. Timely intervention of hypertension reduces the complications in elderly. Observational studies have shown that awareness, treatment and control of hypertension could be improved in elderly people through systematic efforts^{5,6}.

But rational measures cannot be adopted without knowing the extent of the problem in a region. In the phase of epidemiological transition, cardiovascular disease especially hypertension is emerging as a major health problem in rural population. As mentioned, cardiovascular disease is corollary to the ageing process⁷. Our study now focuses on the clinical profile of hypertension and co-morbid conditions in the rural population

MATERIAL AND METHODS:

The study included 200 patients above 60 years of age, who were presented to dept of General Medicine, JNMC, Belagavi from dec 2016 to nov 2017. All patients were subjected to detailed clinical examination and investigations. Informed consent from all patients taken and Institutional ethical clearance taken.

Inclusion Criteria:

All patients above the age of 60 years, irrespective of their hypertensive status, i.e., whether known hypertensive

undergoing treatment, recently detected hypertensive or non-hypertensive.

EXCLUSION CRITERIA:

Patients below 60 years age group and with retroviral disease.

Classification of blood pressure:

All patients were classified according to the VIIth US Joint National Committee on prevention, detection, evaluation and treatment of high blood pressure.

Table 1:

Staging	Systolic blood pressure	Diastolic blood pressure Normal
Normal	<120	<80
Pre-hypertensive	120-139 mm Hg	80-89 mm Hg
Stage I	140-159 mm Hg	90-99 mm Hg
Stage II	≥160 mm Hg	≥100 mm Hg

Blood pressure was taken in all patients in both arms, supine as well as standing and in both lower limbs. In patients who were bedridden, comatose, only supine blood pressure in arm and leg were taken. In patients with atrial fibrillation, a set of three readings and their mean was taken into consideration. In all patients, ECG and fundus examination was done. 2D Echo was done whenever necessary. Routine urine examination, blood urea, serum creatinine and USG abdomen was done to look for evidence of hypertensive nephropathy. CT Brain was done if there were clinical features of cerebrovascular accident to rule out haemorrhage and infarction.

RESULTS:

The present study included 200 patients, of which 120(60%) were male patients and 80(40%) were female patients. Out of these 200 patients, 130 (65%) were found to be hypertensive. Of the 130 hypertensive patients, 78 (60%) were males and 52 (40%) were females. Out of the 130 patients, 85 (65%) were known hypertensive and 45 (35%) were newly detected. Only 18 patients had the blood pressure well controlled below 120/80 mm Hg.

Table 2: Classification of hypertension in study population

Stages of hypertension	Males	Females
Pre-hypertension	22	8
Stage I	33	18
Stage II	45	34

The most common presentation was fatigue 40%, followed by headache 20%, angina 18% and giddiness 13% and 5% were asymptomatic (Table 3).

Table 3: Clinical presentation of hypertensive population

Clinical presentation	No. of patients (%)
Fatigue	40%
Headache	20%
Angina	18%
Breathlessness	15%
Giddiness	13%
Lower limb swelling	10%
Syncope	8%
Palpitation	6%
Asymptomatic	5%
Loss of consciousness	2%

Isolated systolic hypertension is said to be present if the systolic blood pressure is more than 140 mm Hg and diastolic blood pressure is less than 90 mm Hg. Among 130 hypertensive patients, isolated systolic hypertension was diagnosed in 33 (25%) patients in whom 19 (57.77%) were males and 14 (42.42%) were females. Hypertensive retinopathy was found in 88 (42%) patients of whom 64(72.72%) were males and 24(22.27%) were females. Of the 200 patients in our study, dyslipidemia was found in 47 (23.5%) patients, of whom 28 (59.5%) were males and 19 (40.5%) were females. On ECG, ST-T changes were seen in 57 patients followed by LVH in 43 patients (males- 28 and females - 15), left atrial enlargement in 8 patients, P-Pulmonale in 5 patients and RVH in 5 patients. Of the 80 patients who underwent 2D Echo, the most common finding was sclerotic aortic valve which was found in 34 (43%) patients of which 19 (55.88%) were males and 15 (44.11%) were females and 26 (32.5%) patients had LVH.

DISCUSSION:

Hypertension is one of the leading cause of morbidity and mortality in the world and will increase in worldwide importance as a public health problem by 2020¹. Detection, evaluation and treatment strategies for the older hypertensive have been implemented in similar manner as the general population. However, the older population with elevated blood pressure is associated with several unique attributes that should be considered for effective high blood pressure control⁴. Several cohort studies have documented the association of isolated systolic hypertension and increased risk of stroke in the older population. Our study consisted of 200 patients, of which 120 were males and 80 were females. The incidence of hypertension was found to be 65% (130/200). Of the detected hypertensive, 78 (60%) were males and 52 (40%) were females. In a study done by Farook et al, the incidence of established hypertension among elderly was 61.4% of which 64.4% were females and 58% were males⁵. A study by Gupta et al showed a female preponderance of 69.9% vs 59.9%⁶. Isolated systolic hypertension is the most common form of hypertension in the elderly. It was considered part of ageing and like essential hypertension benign, however there is now compelling evidence from cross-sectional, longitudinal and randomized controlled trials that isolated systolic hypertension confers substantial cardiovascular risk⁷, despite this it remains under diagnosed and largely untreated the roots of this essentially lie in over importance of diastolic blood pressure and unjustified consensus about the adverse consequences regarding treating systolic hypertension⁸. In our study of 200 patients of which 130 were hypertensive, isolated systolic hypertension was diagnosed among 33 (25%) patients, of which 19 (57.77%) were males and 14(42.42%) were females. In a study conducted by Gupta et al⁶, systolic hypertension was found in 12 (6%) patients while Dwivedi et al⁹ in their study recorded the incidence of 24.56% and Kulkarni et al found the incidence of 56.6%¹⁰. The latest observation from Framingham study of 2000 elderly patients indicated that

arterial stiffness is the key determinant in cardiovascular risk mortality¹¹. The benefits of treating isolated systolic hypertension is well established⁷. The relative risk reduction of cardiovascular events in the elderly people with isolated systolic hypertension is similar to that in young people. Retinopathy is one of the several markers of target organ damage in hypertension. On the basis of JNC-VII criteria, the presence of retinopathy may be an indication for initiating anti-hypertensive therapy⁷. There is no clear consensus regarding the classification of hypertensive retinopathy or whether a retinal examination is useful for risk stratification. In our study, hypertensive retinopathy was found in 88 (42%) of 200 patients, of whom 64 (72.72%) were males and 24 (22.27%) were females. Kulkarni et al found hypertensive retinopathy among 69/179 (38.5%) among which 40 had stage II hypertension¹⁰. In a study carried out by Chaturvedi et al¹² of 651 patients the incidence was found to be 11% and a study carried out by Michele et al the incidence was 55.8%¹³. Dyslipidemia is an important factor for atherogenesis. Accelerated atherosclerosis is an invariable companion of hypertension, smoking, alcohol consumption and diabetes also affect the serum lipid profile. However, the Framingham study found out an independent association between hyperlipidemia and hypertension. Our study also confirmed this association and increased incidence of cardiovascular complications in them. In our study, dyslipidemia was found in 47 (23.5%) patients. 28 (59.5%) were males and 19 (40.5%) were females. Of the 47 patients, 40 (20%) patients had hypercholesterolemia whereas 34 (17%) patients had hypertriglyceridemia. A study carried out by Kulkarni et al¹⁰ found the incidence of hyperlipidemia to be 55.9% which 30.9% were males and 25% were females. While a study carried out by Aranda P et al¹⁴ found the incidence to be 26.2%. Another study done by Farook et al of 200 patients, hypercholesterolemia was present in 62%, their study included only elderly diagnosed hypertensive which may account for high incidence⁵. The most common ECG finding in our study was ischemic changes 57 (43.5%) patients of which 33 (57.8%) were males and 24 (42.2%) were females. Males were having higher incidence of ischemic heart disease. The next most common thing in ECG was left ventricular hypertrophy, 43 (32.3%) patients had left ventricular hypertrophy of which 28 (65.11%) were males and 15 (34.88%) were females. Left atrial enlargement was found in 8 patients, P-pulmonale in 5 patients had significant right ventricular hypertrophy but was associated with chronic obstructive pulmonary disease. 16 patients had evidence of myocardial infarction. Other findings were atrial fibrillation, left and right bundle branch block. In a study Dwivedi et al⁹ found the incidence of left ventricular hypertrophy was 12.8% while Kulkarni et al found the incidence of 36.3%¹⁰. Left ventricular mass directly relates to cardiovascular mortality as was determined in the Framingham heart study^{15,17}. In our study 2D Echo was done in 80 out of 200 patients, which included 52 males and 28 females. The most common finding is sclerotic The next most common finding was concentric left ventricular hypertrophy, which was found in 24 (33.8%) patients. A study done by Kulkarni et al¹⁰ found the incidence of left ventricular hypertrophy to be 46.4%. While in a study carried out by Paolo et al 97 elderly patients it was found in 43% and was clearly elevated as compared to values in age and sex matched 98 normotensive subjects¹⁸. Whether there are sex differences in cardiac adaptation in hypertension and whether geometric classification be used to adjust treatment remains to be investigated.

CONCLUSION:

As more people live longer, more hypertensives particularly isolated systolic hypertensive patients will be seen. The degree of risk from hypertension can be categorized with reasonable accuracy by taking into account the level of blood pressure and the biological aggressiveness of the hypertension based on the degree of target organ damage and the co-existence of other risk factors. Critical Clinical examination, assessment of target organ damage and the

presence of co-morbid illnesses in hypertensive individuals helps us in making the strategy for management. The present study reiterates the need for early detection, assessment of overall cardiovascular risk and treatment of hypertension in the elderly.

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