

# A study of clinical profile of elderly hypertensives in a medical college hospital in Kerala

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## Abstract

**Aims:** To study the common symptoms at presentation, prevalence of target organ damages and the effect of risk factors like obesity, alcoholism, smoking, diabetes mellitus and dyslipidemia in producing these complications among elderly hypertensives. **Methods:** This was a cross sectional study conducted in two hundred adult patients with hypertension who were aged above or equal to 60 years, admitted to the medical wards of Travancore Medical College hospital, Kollam. Statistical analysis was done using chi square test and Gaussian test wherever required. **Results:** In our study, among the elderly hypertensives, headache was the chief commonest complaint (36%). The commonest target organ damage involved were of cardiovascular system (35%). The prevalence of target organ damage among elderly hypertensives with risk factors like obesity, alcoholism, smoking, diabetes mellitus and dyslipidemia were higher, compared to elderly hypertensives without these risk factors. **Conclusion:** Headache was the common symptom of presentation among the elderly hypertensives. Of the target organ damages, those involving cardiovascular system were the most common. Although the prevalence of target organ damage among elderly hypertensives with risk factors, were higher than elderly hypertensives without these risk factors, statistical significance was present only for dyslipidemia

**Keywords:** elderly hypertensives, hypertensive.

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## INTRODUCTION

Hypertension<sup>1</sup> is a common medical problem in the elderly, and is a major risk factor for stroke, coronary heart disease and renal failure. Hypertension along with other risk factors like smoking, alcoholism, dyslipidemia, obesity and diabetes mellitus magnifies the risk of these complications. The epidemic of hypertension is nowadays increasing. This increase may be due to a change in lifestyle, leading to obesity and other risk factors. Scanty information is available from India regarding the prevalence of hypertension and its complications. In the present study, the common symptoms of presentation, prevalence of target organ damage, and the effect of risk

factors like obesity, alcoholism, smoking, diabetes and dyslipidemia in producing these complications were studied in the hypertensive patients who are more than or equal to 60 years of age.

## MATERIALS AND METHODS

Two hundred adult patients with hypertension who are aged more than or equal to 60 years who are admitted to the medical wards of Travancore Medical College hospital, Kollam over a period of 5 years from May 2008 to April 2013 were studied. Following characteristics were studied in the young hypertensives.

1. Common symptoms of presentation.
2. Prevalence of target organ damage.
3. Effect of other risk factors like obesity, alcoholism, smoking, diabetes mellitus and dyslipidemia in producing these complications.

Patients were selected from Travancore Medical College Hospital, Kollam.

### Inclusion Criteria

1. Patients who are diagnosed to have Hypertension according to Eighth joint national committee criteria.
2. Age as specified above.

3. Patients who were on antihypertensive medications.

**Statistical Methods**

For analysis of the data the SPSS-PC Programme was used. Statistical analysis was done using chi square test and Gaussian test wherever required.

**OBSERVATIONS AND RESULTS**

In our study, among the elderly hypertensives, headache was the commonest chief complaint. 72 elderly hypertensives (36%) had headache as the presenting symptom (Table no. 1).56 elderly hypertensives (28%) were diagnosed to have hypertension during routine evaluation. Cardiovascular symptoms were present in 70(35%) elderly hypertensives in our study. 22(11%) patients had dyspnea, 32(16%) patients had chest pain, 16(8%) patients had palpitations. Symptoms suggestive of central nervous system involvement were present in 43 elderly hypertensives (21.5%). 11(5.5%) had loss of consciousness, 18(9%) had weakness of one side of body, 4(2%) had convulsions and 10 patients (5%) had blurring of vision. Other symptoms like decreased urine output and pedal edema were present in 7(3.5%) and 10(5%) patients among the elderly hypertensives. 140 patients (70%) were males and 60 patients (30%) were females among the elderly hypertensives. Among the elderly patients, 58 patients (29%) were newly detected hypertensives. Family history of hypertension was present in 105 elderly hypertensives (52.5%). Target organ damage.(Table no.2) Cardiovascular Disease-Among the elderly hypertensives, 123 patients (61.5%) had cardiovascular complications. 85 patients had left ventricular hypertrophy in echocardiography. 22 of these 85 patients had ECG wise left ventricular hypertrophy.26 patients had ischemic heart disease and 12 patients were admitted with left ventricular failure.

**Table 1:** Clinical presentation in elderly hypertensives

Chief symptom/sign	No. of elderly hypertensives(%)
Headache	72(36%)
Dyspnoea	22(11%)
Palpitations	16(8%)
Chest pain	32(16%)
Hemiplegia	18(9.9%)
Convulsions	4(2%)
Loss of consciousness	11(5.5%)
Decreased urine output	7(3.5%)
Pedal edema	10(5%)
Routine evaluation	56(28%)

**Cerebrovascular complications**

Among the elderly hypertensives, 29 patients (14.5%) had cerebrovascular complications.25 patients had ischemic

stroke, 3 patients had haemorrhagic stroke and 1 had hypertensive encephalopathy.

**Renal complications**

Renal complications in the form of elevated creatinine (>1.5mg/dl) and/or proteinuria>1+ were seen in 49 patients (24.5%).

**Retinopathy**

Among the elderly hypertensives, hypertensive retinopathy was present in 83 patients (41.5%),of which 38 patients had grade 1 hypertensive retinopathy,40 patients had grade 2 hypertensive retinopathy, 3 had grade 3 hypertensive retinopathy and 2 had grade 4 hypertensive retinopathy

**Table 2:** Target organ damage

Target organ damage	No.of elderly hypertensives
Cardiovascular system	123(61.5%)
Central nervous system	29(14.5%)
Renal system	49(24.5%)
Hypertensive retinal changes	83(41.5%)

There was a combination of target organ damages involving different organ systems present, among the patients studied. (As depicted in table no.3).

**Table 3:** Target organ damage

Target organ damage	No of elderly hypertensives
Cardiac	48(24%)
Renal	11(5.5%)
Retinal	12(6%)
CNS/Cardiac	10(5%)
Cardiac/Renal	4(2%)
Cardiac/Retinal	28(14%)
C.V.S/Renal/Retinal	18(9%)
C.V.S/Retinal/C.N.S	9(4.5%)
Renal/Retinal	8(4%)
C.V.S./C.N.S/Renal/Retinal	4(2%)
C.N.S/Retinal	4(2%)
No target organ damage	42(21%)

**Risk Factors Diabetes Mellitus**

Diabetes Mellitus was present in 59 elderly hypertensives. 49 out of 59 (83%) diabetic elderly hypertensives had evidence of target organ damage. Among the non-diabetic elderly hypertensives, 109 patients (73%) had evidence of target organ damage. Although the prevalence of target organ damage among diabetic elderly hypertensives was higher than non-diabetic elderly hypertensives, there was no statistical significance (p=0.363NS).

Target organ damage	Diabetes Mellitus(yes)	Diabetes Mellitus(No)	Total
Yes	49(83%)	109(77.3%)	158
No	10(17.0%)	101(22.7%)	42
<b>Total</b>	<b>59</b>	<b>141</b>	<b>200</b>

### Obesity

Out of 200 elderly hypertensive patients, 29 patients were obese. 24 (82.7%) patients had evidence of target organ damage among the 29 obese elderly hypertensives as against 134(78.3%) of 171 non-obese elderly hypertensives. There was no statistical significance ( $p=0.591$ ).

Target organ damage	Obesity(yes)	Obesity(No)	Total
Yes	24(82.7%)	134(78.3%)	158
No	5(17.3%)	37(21.6%)	42
<b>Total</b>	<b>29</b>	<b>171</b>	<b>200</b>

### Dyslipidemia

Abnormal fasting lipid levels were present in 101 elderly hypertensives.88 among 101 (87.12%) elderly hypertensives had target organ damage, as against 70 among 99 (70.7%) elderly hypertensives with normal lipid levels. This was statistically significant ( $p=0.0044$ ).

Target organ damage	Dyslipidemia(yes)	Dyslipidemia(No)	Total
Yes	88(87.2%)	70(70.7%)	158
No	13(12.8%)	29(29.3%)	42
<b>Total</b>	<b>101</b>	<b>99</b>	<b>200</b>

### Smoking

In our study, 61 elderly hypertensives were smokers. Among the 61 smokers, 51 (83.6%) had evidence of target organ damage as against 107 (77%) of 139 non-smokers and there was no statistical significance ( $p=2893$ ).

Target organ damage	Smoking(Yes)	Smoking(No)	Total
Yes	51(83.6%)	107(77%)	158
No	10(16.4%)	32(23%)	42
<b>Total</b>	<b>61</b>	<b>139</b>	<b>200</b>

### Alcohol consumption

58 elderly hypertensives had history of alcohol consumption. Out of 58 elderly hypertensives, 47(81%) patients had evidence of target organ damage as against 111(78%) of 142 young hypertensives without this risk factor. This didn't show any statistical significance ( $p=0.6517$ ).

Target organ damage	Alcohol consumption(Yes)	Alcohol consumption(No)	Total
Yes	47(81%)	111(78%)	158
No	11(19%)	31(22%)	42
<b>Total</b>	<b>58</b>	<b>142</b>	<b>200</b>

## DISCUSSION

In our study, in the elderly hypertensives headache was the chief commonest complaint. Apart from headache, other symptoms attributable to target organ damage such

as chest pain, palpitations, breathlessness, hemiplegia, convulsions, decreased urine output and pedal edema were present in elderly hypertensives<sup>7,8</sup>. In studies done by Vrinda Kulkarni *et al*, the commonest symptom reported by elderly hypertensives was headache<sup>9</sup>.

In our study, elderly hypertensives had cardiovascular complications like left ventricular hypertrophy, heartfailure and coronary artery disease. Cerebrovascular complications like ischemic and haemorrhagic stroke, other target organ damages like renal failure and hypertensive retinopathy were also present among elderly hypertensives. Studies done by Helgel and *et al* and Hart JT *et al*<sup>10</sup> had similar results. We compared the prevalence of target organ damage between elderly hypertensives with risk factors like smoking, alcoholism, obesity, dyslipidemia, diabetes mellitus and elderly hypertensives without these risk factors. Although the prevalence of target organ damage among elderly hypertensives with these risk factors were higher than elderly hypertensives without these risk factors, statistical significance was present only for dyslipidemia. Woo J *et al*'s<sup>11</sup> studies have shown that risk factors for target organ damage are different in elderly compared to younger subjects.

## CONCLUSION

In the elderly hypertensives, headache was the common symptom of presentation. Of the target organ damages, those involving cardiovascular system were more (61.5%), compared to other target organ damages. Target organ damages involving cerebrovascular system, renal system and retinopathy were also present in 14.5%, 24.5% and 41.5% respectively. Although the prevalence of target organ damage among elderly hypertensives with risk factors like smoking, alcoholism, obesity, dyslipidemia and diabetes mellitus were higher than elderly hypertensives without these risk factors, statistical significance was present only for dyslipidemia.

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