Research Article

A study of clinical profile of young hypertensives at tertiary care hospital in Kerala

Sundeep S[*], Arun Raj C N[**]

[*,**]Associate Professor, Department of General Medicine, Travancore Medical College, Kollam-691589
Email: drsundeepes@gmail.com

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 young hypertensives. **Methods**: This was a cross sectional study conducted in two hundred adult patients with hypertension who were aged below or equal to 40 years,admitted to the medical wards of Travancore Medical College hospital, Kollam. Statistical analysis was done using chi square test and guassian test wherever required. **Results**: In our study, among the young hypertensives, headache was the chief commonest complaint(34%).The commonest target organ damage involved were of cardiovascular system(37%).The prevalence of target organ damage among young hypertensives with risk factors like obesity, alcoholism, smoking, diabetes mellitus and dyslipidemia were significantly higher, compared to young hypertensives without these risk factors. **Conclusion**: Headache was the common symptom of presentation among the young hypertensives. Of the target organ damages, those involving cardiovascular system were the most common. The prevalence of target organ damage among young hypertensives with risk factors, were significantly higher than young hypertensives without these risk factors.

Key Word: hypertension, kerala.

[*]**Address for Correspondence:**
Dr. Sundeep S. Sreesivam, CNNRA-2, Cantonment North, Kollam-691001, Kerala, INDIA.
Email: drsundeepes@gmail.com

Received Date: 16/06/2015 Revised Date: 29/06/2015 Accepted Date: 01/07/2015

Access this article online	
Quick Response Code:	Website: www.statperson.com
	DOI: 02 July 2015

INTRODUCTION

Hypertension[1] is a major health problem worldwide, 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; involving younger population. 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 younger age group.

AIM

In the present 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 were studied in the hypertensive patients who are less than or equal to 40 years of age.

MATERIALS AND METHODS

This was a cross sectional study conducted in two hundred adult patients with hypertension who were aged below or equal to 40 years, admitted to the medical wards of Travancore Medical College hospital, Kollam. Following characteristics were studied in the young hypertensives.

1. Common symptoms at 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.

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.

Data Collection

How to site this article: Sundeep S, Arun Raj C N. A study of clinical profile of young hypertensives at tertiary care hospital in Kerala. *International Journal of Recent Trends in Science and Technology.* July 2015; 15(3): 483-485 http://www.statperson.com (accessed 03 July 2015).

Each person's name, age, sex, presenting complaints, their duration and progress were recorded. History of Diabetes mellitus, history of addictions like smoking and alcohol, and family history of hypertension were taken.
Blood pressure measurement and complete clinical examination were done in all patients.
The following investigations were done for all patients. Hb, ESR, urine analysis, urea, creatinine, fasting blood sugar, fasting lipid profile, electrocardiogram, ultrasound abdomen and echocardiography. CT Scan was done as and when indicated.

Statistical Methods

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

OBSERVATIONS AND RESULTS

In our study,among the young hypertensives,headache was the commonest chief complaint. 68 young hypertensives (34%) had headache as the presenting symptom (Table no. 1). 62 young hypertensives (31%) were diagnosed to have hypertension during routine evaluation. Cardiovascular symptoms were present in 54(27%) young hypertensives in our study.16(8%)patients had dyspnea,12(6%) patients had palpitations,26(13%)patients had chest pain. Symptoms suggestive of central nervous system involvement were present in 8 young hypertensives(6%). 3 had loss of consciousness(1.5%), 3 had weakness of one side of body (1.5%) and 2 had convulsions(1%). Other symptoms like decreased urine output and pedal edema were present in 5(2.5%) and 6(3%) patients among the young hypertensives.

Table 1: Table showingCinical presentation in hypertensives

Chief symptom/sign	No. of young hypertensives(%)
Headache	68(34%)
Dyspnoea	16(8%)
Palpitations	12(6%)
Chest pain	26(13%)
Hemiplegia	3(1.5%)
Convulsions	2(1%)
Loss of consciousness	3(1.5%)
Decreased urine output	5(2.5%)
Pedal edema	6(3%)
Routine evaluation	62(31%)

142 patients(71%)were males and 58 patients(29%)were females among young hypertensives. Among the young patients, 97 patients(48.5%) were newly detected hypertensives. Family history of hypertension was present in 102 young hypertensives(51%).

Table 2: ShowingTarget organ damage

Target organ damage	No.of young hypertensives
Cardiovascular system	74(37%)
Central nervous system	8(4%)
Renal system	27(13.5%)
Hypertensive retinal changes	49(24.5%)

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

Table 3: Showing the prevalence of Target organ damage involving multiple systems

Target organ damage	No of young hypertensives
Cardiac	30(15%)
Renal	2(1%)
Retinal	10(5%)
CNS/Cardiac	6(3%)
Cardiac/Renal	5(2.5%)
Cardiac/Retinal	17(8.5%)
C.V.S/Renal/Retinal	14(7%)
C.V.S/Retinal/C.N.S	2(1%)
Renal/Retinal	6(3%)
No target organ damage	108(54%)

RISK FACTORS

Diabetes Mellitus

Diabetes Mellitus was present in 56 young hypertensives. 49 out of 56(87.5%) diabetic young hypertensives had evidence of target organ damage. Among the non-diabetic young hypertensives, 43 patients(29.9%) had evidence of target organ damage. The prevalence of target organ damage among diabetic young hypertensives was higher than non-diabetic young hypertensives and it was statistically significant(p=0.001).

Obesity

Out of 200 young hypertensive patients, 37 patients were obese. 25(67.6%) patients had evidence of target organ damage among the 37 obese young hypertensives as against 67(41.1%) of 163 non-obese young hypertensives. This was statistically significant(p=0.004).

Dyslipidemia

Abnormal fasting lipid levels were present in 113 young hypertensives.76 among 113(67.3%)young hypertensives had target organ damage, as against 16 among 87(18.4%) young hypertensives with normal lipid levels. This was statistically significant(p=0.001).

Smoking

In our study, 72 young hypertensives were smokers. Among the 72 smokers, 54(75%) had evidence of target organ damage as against 38(29.7%) of 128 non-smokers and this was statistically significant($p<0.001$).

Alcohol consumption

68 young hypertensives had history of alcohol consumption. Out of 68 young hypertensives, 49(72%) patients had evidence of target organ damage as against

43(32.5%) of 132 young hypertensives without this risk factor. This was found to be statistically significant($p<0.0001$).

Table 4: showing the relation between risk factors and target organ damage

Risk factor	Target organ damage present	Target organ damage absent
Diabetes Mellitus present	49(87.5%)	7(12.5%)
Diabetes Mellitus absent	43(29.9%)	101(70.1%)
Obesity present	25(67.6%)	12(32.4%)
Obesity absent	67(41.1%)	96(58.9%)
Dyslipidemia present	76(67.3%)	37(32.7%)
Dyslipidimia absent	16(18.4%)	71(81.6%)
Smoking present	54(75%)	18(25%)
Smoking absent	38(29.7%)	90(70.3%)
Alcoholism present	49(72%)	19(28%)
Alcoholism absent	43(32.6%)	89(67.4%)

DISCUSSION

In our study, among the young 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 young hypertensives[7,8]. In studies done by Panja *et al.* and Kaplan NM *et al.*, the commonest symptom reported by young hypertensives was headache.[9] In our study, The commonest target organ damage involved were of cardiovascular system(37%).Young 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 in young hypertensives. Studies done by Helgel and *et al.* and Hart JT[10] *et al.* had similar results.. Over long-term follow-up, younger and middle-aged adults with hypertension had higher relative risk for CVD and CHD mortality than those with optimal-normal BP as per study by Yano *et al.*.[11] We compared the prevalence of target organ damage between young hypertensives with risk factors like smoking, alcoholism, obesity, dyslipidemia, diabetes mellitus and young hypertensives without these risk factors. The prevalence of target organ damage among young hypertensives with these risk factors was significantly higher than hypertensives without these risk factors. This was statistically highly significant for all the risk factors. Gupta R[12] *et al.*'s study among rural Indian population had shown similar results.

CONCLUSION

In the young hypertensives, headache was the common symptom of presentation. Of the target organ damages, those involving cardiovascular system were more (37%),compared to other target organ damages. Target organ damages involving cerebrovascular system, renal system and retinopathy were also present in 4%,13.5% and 24.5% respectively. The prevalence of target organ damage among young hypertensives with risk factors like smoking, alcoholism, obesity, dyslipidemia and diabetes mellitus were significantly higher than young hypertensives without these risk factors.

REFERENCES

1. Turner ST, Boerwinkle E. Genetics of hypertension, target organ complications and response to therapy. Circulation 2000;102(20 suppl. 4):IV40-IV45.
2. Paul A. James, Suzanne Oparil, Barry L. Carter, William C. Cushman *et al.*.2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults.Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8).JAMA. 2014;311(5):507-520.
3. Roman MJ, Saba PS *et al.*. Impact of arterial stiffening on left ventricular structure.Hypertension 2000;36:489-494.
4. Klatsky AL, Gerald MJ. Alcohol consumption and Blood pressure. New England journal of Medicine 1977;296:1194-1200.
5. Bastos, Filipa S, Joana S, Raquel F, Polonia.The prognostic value of ambulatory arterial stiffnessindex as a predictor of cardiovascular events in resistant hypertensive patients.J Hypertens. 2015;33:24-27.
6. Kjellgren K, Ahlner J, *et al.*. Percieved symptoms amongst hypertensive patients in routine clinical practice. J Intern Med 1998;244:325-332.
7. Stewart I *et al.*. Headache and Hypertension.Lancet 1953;1:1261-1266.
8. Kannel WB. Blood pressure as a cardiovascular risk factor.JAMA 1996;275: 1571-1576
9. Philips SJ, Whisnant JP. Hypertension and brain. Arch Intern Med 1992;152:938-945.
10. Harts JT, Edwards C, Jones J. Screening detected Hypertension under 40.British Medical Journal.1993;306(6875);437-40.
11. Yano Y, Stamler J, Garside DB, Daviglus *et al.*.Isolated systolic hypertension in young and middle-aged adults and 31-year risk for cardiovascular mortality: the Chicago Heart Association Detection Project in Industry study.J Am CollCardiol. 2015 Feb 3;65(4):327-35.
12. Gupta R, Sharma S, Gupta VD.Smoking and alcohol intake in a rural Indian population and correlation with hypertension and coronary heart disease prevalence.JAPI.1995,April;43(4):253-8.

Source of Support: None Declared
Conflict of Interest: None Declared