



A Study of Clinical Profile of Young Hypertensives at Tertiary Care Hospital in Rajasthan.

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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 and dyslipidemia in producing these complications and Value of several laboratory investigative procedures in the diagnosis of hypertension among young hypertensives.

Methods: This was a cross sectional study conducted in 50 adult patients with hypertension who were aged between 15 to 40 years, admitted to the medical wards of Geetanjali Medical College Hospital, Udaipur, Rajasthan. Patients were evaluated for the cause of hypertension by thorough clinical examination, routine laboratory tests and special investigations.

Results: In our study, among the young hypertensives, maximum number of patients were in the age group 31-35 (34%), headache was the chief commonest complaint (72%). The common target organs damaged were of cardiovascular and renal system. The prevalence of target organ damage among young hypertensives with risk factors like obesity, alcoholism, smoking and dyslipidemia were significantly higher, compared to young hypertensives without these risk factors.

Conclusion: In young hypertensive the secondary causes are commonly found. Renal, endocrinal constitute most of the causes. In majority of the cases secondary hypertension can be diagnosed by history, physical examination, simple tests of blood, urine and ultrasound abdomen. The special investigations, were done, based on these parameters.

If the underlying cause is corrected most of the secondary forms of hypertension are curable.

Reinforcement of dietary measures and regular antihypertensive in the essential group is the treatment of choice.

KEYWORDS

Young, Hypertensive, Secondary Hypertension.

Introduction:

Hypertension is one of the most common disease afflicting humans throughout the world. Because of the associated morbidity and mortality and the cost to society, hypertension is an important public health challenge. Over the past several decades, extensive research, widespread patient education, and a concerted effort on the part of health care professionals have led to decreased mortality and morbidity rates from the multiple organ damage arising from years of untreated hypertension. 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.

Hypertension is a major health problem worldwide¹, and is a major risk factor for renal failure, coronary heart disease, stroke, congestive heart failure and peripheral vascular disease. Hypertension along with other risk factors like smoking, alcoholism, dyslipidemia, obesity and diabetes mellitus magnifies the risk of these complications. Therefore, health care professionals must not only identify and treat patients with hypertension but also promote a healthy lifestyle and preventive strategies to decrease the prevalence of hypertension in the general population. The study, diagnosis and treatment of hypertension in the young constitute one of the major health challenges today because of the high percentage of potentially curable chance if the cause could be found. Scanty information is available from India regarding the prevalence of hypertension and its complications in the younger age group. Indeed intensive study and investigations are required to unravel the underlying cause.

Aims and Objectives:

To study the clinical patterns of young hypertensive (15 to 40 yrs). Any special clinical profile of young hypertensive.

Value of several laboratory investigative procedures in the diagnosis of Hypertension.

Material and Method:

This was a cross sectional study conducted in 50 patients with hypertension who were in age group of 15- 40 years, admitted to the medical wards of Geetanjali Medical College Hospital, Udaipur.

Inclusion criteria

1. Patients who are diagnosed to have Hypertension.
2. Age as specified above.
3. Patients who were on antihypertensive medications.

Exclusion criteria

1. Hypertensive <15yr and >40yrs.
2. Pregnancy induced hypertension
3. Drug induced hypertension

Data Collection

Each patients 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, ECG, Chest X-ray, USG abdomen and echocardiography.

Further investigations are carried out if routine investigations and clinical examination indicated the need.

Observations and Results:

Table 01: Distribution According to Gender

Gender	Frequency	Percentage
Male	32	64.00%
Female	18	36.00%
Total	50	100%

In our study 32 (64%) patients were Males and 18 (36%) were Females.

Table 02: Distribution According to Age

Age (Years)	Frequency	Percentage
15-20	06	12.0%
21-25	05	10.0%
26-30	09	18.0%
31-35	17	34.0%
36-40	13	26.0%
Total	50	100%

In our study maximum (n=17, 34%) number of patients were in the age group 31-35 years followed by 36-40 years (n=13, 26%). 6 patients (12%) were in the age group 15-20 years, 5 (10%) were in the age group 21-25 years and 9 (18%) were in the age group 26-30 years.

The mean age of males was 29.78 years (SD=7.38 years), the mean age of females was 32.06 years (SD = 4.94 Years).

Table 03: Distribution According to Symptoms

Symptoms	No. of Patients	Percentage
Headache	36	72.0%
Hematuria	08	16.0%
Oedema	27	54.0%
Dyspnoea	25	50.0%
Palpitation	22	44.0%
Sweating	11	22.0%
Hemiparesis	03	06.0%
Epistaxis	11	22.0%

In our study 72% (n=36) patients had headache, 25 (n=50%) patients had dyspnoea, 54% (n=27) had oedema, 44% (n=22) had palpitation, 22% (n=11) had sweating, 16% (n=8) had hematuria and 22% (n=11) had epistaxis.

Table 04: Distribution according to Family History

Family History	No. of Patients	Percentage
Absent	44	88.0%
Present	06	12.0%
Total	50	100%

In 44 (88.0%) patients there was no family history where as in 6 (12.0%) patients family history was present.

Table 05: Distribution according to Risk Factor

Risk Factors	No. of Patients	Percentage
Smoking	10	20.0%
Alcohol	12	24.0%
None	28	56.0%
Total	50	100%

Out of 50 patients, 10 (20.0%) were smokers, 12 (24.0%) were having alcohol as risk factor where as 28 (56.0%) were do not have any risk factor.

Table 06: Distribution according to ECG

ECG Finding	No. of patients	Percentage
Bradycardia	03	06.0%
IHD	02	04.0%
LVH	14	28.0%
Normal	31	62.0%
Total	50	100%

In our study out of 50 patients, ECG was suggestive of Bradycardia in 3 (6.0%) patients, IHD in 2 (4.0%) patients, LVH in 14 (28.0%) patients and was normal in 31 (62%) patients.

Table 07: Distribution according to 2-D Echocardiogram

2D Echo Findings	No. of Patients	Percentage
Normal	33	66.0%
Aneu	01	02.0%
IHD	02	04.0%
LVH	11	22.0%
PE	02	04.0%
TAKA	01	02.0%
Total	50	100%

In our study out of 50 patients 33 (66.00%) were normal, 1 (2.0%) was Aneu, 2 (4%) were IHD, 11(22.0%) were LVH, 2 (4%) were PE and 1 (2%) were TAKA.

Table 08: Distribution according to USG

USG Findings	No. of Patients	Percentage
Normal	26	52.0%
Medical Renal Disease	13	26.0%
Anatomical Renal Disease	11	22.0%
Total	50	100%

The above table shows distribution of samples according to USG. Out of 50 patients, 26 (52.000%) were normal, 13 (26%) were having MRD and 11 (22%) were having Anatomical Renal Disorder like Hypoplastic kidney, Polycystic kidney, unilateral or bilateral renal artery stenosis, Adrenal mass.

Discussion:

Patients with hypertension have some underlying mechanism that elevates their blood pressure conceptually, it is useful to think of patients with hypertension as having either essential HT (Karine, Bech et al 1975) - systemic hypertension of unknown cause, also called Primary hypertension or Secondary hypertension that results from an underlying identifiable, often correctable cause .The findings of such condition is particularly important since the underlying cause and thereby the hypertension may in some cases be remedied by surgical intervention. This is of course much to be preferred to prolonged drug therapy, which in some cases is not well tolerated.

Considering the high incidence of hypertension requiring treatment in general population, the study of hypertensive patient with object of revealing specific etiological factors must be considered as rather demanding task and is consequently today a discussed topic. Investigations, which are time consuming, costly and sophisticated, must of course be related to the incidence of secondary including curable hypertension. In our study, maximum (n=17, 34%) number of patients were in the age group 31-35 years followed by 36-40 years (n=13, 26%). In our study, among the young hypertensive, headache was the chief commonest complaint. Apart from headache, other symptoms attributable to target organ damage such as palpitations, breathlessness, dyspnea and pedal oedema were present in young hypertensives^{2,3}.

In studies done by Panja et al. and Kaplan NM et al., the commonest symptom reported by young hypertensive patients was headache.⁴ In our study, Out of 50 patients, 10 (20.0%) were smokers, 12 (24.0%) were having alcohol as risk factor. In studies done by Gupta R, Sharma S, Gupta VP⁵, Alcohol intake-smoker group had a significantly higher prevalence of hypertension.

Conclusion:

In young hypertensive the secondary causes are commonly found. Renal, endocrinal constitute most of the causes. In majority of the cases secondary hypertension can be diagnosed by history, physical examination, simple tests of blood, urine and ultrasound abdomen. The special investigations were done, based on these

parameters. If the underlying cause is corrected most of the secondary forms of hypertension are curable. Reinforcement of dietary measures and regular antihypertensive in the essential group is the treatment of choice.

Summary:

- In the study of 50 young hypertensive patients with reference to clinical features the following observations were made.
- Secondary hypertension is the commonest cause of Hypertension in young patients and constituted 68% of all hypertensive.
- Essential hypertension constituted the single largest group and constituted 32% of all hypertensive.
- Renal pathology was the commonest cause of secondary hypertension 46%, followed by endocrine causes 8% which included Phaeochromocytoma (2%), and Hypothyroid (6 %), Takayasu's arteritis in 2%.
- Special investigations are used based on clinical findings and routine laboratory investigations.
- Essential hypertension was controlled with Antihypertensive treatment. Most commonly used antihypertensive was Hydrochlorthiazide followed by Amlodipine, Ramipril, Telmisartan.

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. Stewart I et al. Headache and Hypertension. *Lancet* 1953; 1:1261-1266.
3. Kannel WB. Blood pressure as a cardiovascular risk factor. *JAMA* 1996;275: 1571-1576.
4. Philips SJ, Whisnant JP. Hypertension and brain. *Arch Intern Med* 1992; 152:938-945.
5. 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.