

A Study of Hypertension in Hospital

Pages with reference to book, From 4 To 8

Tariq Nishtar (Dept. of Medicine, Khyber Medical College Med. 'A' Unit, Lady Reading Hospital, Peshawar)
A.A.Qazilbash (Khyber Medical College, Med. 'A' Unit, Khyber Hospital Peshawar.)

Abstract

200 cases of Hypertension were studied in hospital to document its clinical features, biochemical profile and complications. 168 (84%) were diagnosed as Primary hypertension and 32 (16%) as secondary hypertension. The male female ratio in the two groups was similar. The ages were 50.2 ± 7.56 and 48.5 ± 6.52 for males and females respectively in the Primary hypertension group and 44.3 ± 5.10 and 39.1 ± 8.99 respectively in the secondary hypertension patients. The proportion of asymptomatic cases was the same in the two groups. Visual symptoms and Orthropnoea were more common in the secondary hypertension group. The various complications /associated problems encountered were Renal Failure 16.5%, cerebrovascular accidents 8%, congestive Cardiac failure 9.5% and Ischaemic Heart Disease 14.5%. The results are compared with reports from else where in Pakistan (JPMA 34 : 4, 1984).

Introduction

In this hospital based study of hypertension its common clinical features and various complications were documented with the aim of providing guidelines for diagnosis and management of cases. The results are compared with reports from other workers in different parts of Pakistan.

Material and Methods

All cases of hypertension admitted to two medical wards of Khyber and Lady Reading Hospitals from Jan. 1979 to Dec. 81 were included in the study. However in the final analysis 200 cases had complete records and these are being reported.

Blood pressure measurement was done with a standard mercury sphygmomanometer in both the supine and sitting positions. Readings of over 160 mm of Hg systolic and 90 mm of Hg diastolic for three consecutive days were taken as hypertension. A detailed history was taken and complete physical examination was done on all cases.

Investigations:- In addition to the routine investigations like Hb, full blood count, ESR, urine examination (Sp. gr. Albumin, sugar, pus cells crystals and casts) ECG and x-ray abdomen, serum electrolytes, blood urea and creatinine levels were done in all patients. Intravenous pyelograms were done on patients with suspected renal pathology with normal blood urea while renal scans were carried out in those with raised blood urea level.

Criteria for diagnosis of secondary hypertension:-

1) Renoparenchymal disease:-

1. Ch. glomerulonephritis was diagnosed when persistent or intermittent albuminuria or haematuria or both were present without any other cause for the abnormality (Berglund et al., 1976).
2. Ch. Pyelonephritis required a history of recurrent urinary tract infections and lowered concentration ability of the kidney (Berglund et al., 1976) Renal scarring on NP strengthened the diagnosis.
3. Diabetic nephropathy was diagnosed on the basis of history and urine examination results.
4. Polycystic disease of the kidney was diagnosed on clinical examination and NP.

II. Coarctation of the aorta was diagnosed on clinical examination and chest x-ray findings.

Results

During the study period hypertension formed 10% of the total admissions to the two general Medical wards in which the study was being conducted. Of the 200 patients included in the study, 115 (57.5%) only were receiving treatment at the time of admission but their pressure was not satisfactory. (42.5%) patients were not on sive therapy.

On the basis of clinical presentation and detailed investigations listed above, 168 (84%) patients were diagnosed as suffering from primary hypertension and 32 (15%) cases were labelled secondary hypertension (Table-I).

Table – I

**Comparison of Sex, Age and Family History of Patients
With Primary and Secondary Hypertension.**

Total No. of Cases Studied	=	200	
i) Primary Hypertension	=	168 (84%)	
ii) Secondary "	=	32 (16%)	
		Primary Hypertension	
		(N=68)	
		Nos	%
I) Males		95	56
ii) Females		73	44
		Secondary Hypertension	
		(N= 32)	
		Nos	%
I) Males		19	59
ii) Females		13	41
Age Group (Years)		Mean ± S.D.	
i) Males		50.2 ± 7.56	
ii) Females		44.3 ± 5.10	
		39.1 ± 8.99	
Family History		Nos	%
i) Hypertension		59	35
ii) D, Mellitus		11	6.5
iii) I.H.D.		11	6.5
iv) Others		6	3.5
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The underlying causes of secondary hypertension were Ch. pyelonephritis in 19 cases, 14 (43.7%) males and 5 (38.5%) females. Ch. glomerulonephritis was responsible in 13 cases, 7 (53.8%) males and 6 (46.2%) females. One patient each of coarctation of aorta (male) diabetic nephropathy(male) and polycystic diseases of the kidneys (female) were diagnosed. Two cases, a male and a female were of uraemia and in these the underlying pathology was not clear.

Table-I compares the two groups as regards sex, age and family history. The sex distribution in the two groups is similar while as regards age, the secondary hypertension group are somewhat younger

especially the female cases. A family history of hypertension was present in 35% of the Primary hypertension group and 12.5% of the secondary hypertension group. Positive family history for Ischaemic heart disease and diabetes mellitus was of the same proportion in the two groups.

Table-II
Comparison of Clinical Features of Primary and Secondary Hypertension.

Presenting Symptoms	Primary Hypertension (N = 168)		Secondary Hypertension (N = 32)	
	Nos	%	Nos	%
1. No. Symptoms	17	10.1	4	12.5
2. Headache	132	87.4	22	78.6
i. Occipital	40	30.3	8	36.4
ii. Frontal	24	18.2	6	27.2
iii. Generalised	39	29.5	4	18.2
iv. Dull	10	7.6	2	9.1
v. Pounding	19	14.4	2	9.1
3. Weakness	109	72.2	20	71.4
4. Palpitations	98	64.9	21	75.0
5. Dizziness	89	58.9	18	64.3
6. Dyspnoea	64	42.4	16	57.1
7. Polyuria	42	27.8	7	25.0
8. Angina pectoris	41	27.1	6	21.4
9. Visual Symptoms	47	31.1	16	57.1
10. Epistaxis	17	11.3	3	10.7
11. Orthopnoea	12	7.9	5	17.9
12. Haematuria	34	22.5	6	21.4

In Table-II the clinical features of the two groups are given 10.1% of primary hypertension and 12.5% of the secondary hypertension group were asymptomatic. The other features were also almost the same except for visual symptoms which were present in 31.1% of Primary and 57.1% of secondary hypertension group and orthopnoea which was complained of by 7.9% of Primary and 17.9% of the secondary hypertension patients.

The biochemical values of the two groups are compared in Table-III.

Table–III**Biochemical Profile of Primary and Secondary Hypertension.**

Biochemical Investigations	Primary Hypertension (N = 168) Mean \pm S.E.M.	Secondary Hypertension (N = 32) Mean \pm S.E.M.
1. Serum Cholestrol (mg/100ml)	206 \pm 5.55	225 \pm 2.13
2. Total Lipids (Fasting) ”	649 \pm 4.37	701 \pm 6.51
3. Triglyceride (Fasting) ”	121 \pm 3.01	110 \pm 4.59
4. Blood Sugar (Fasting) ”	109 \pm 7.60	97 \pm 3.13
5. Blood Urea	57 \pm 6.95	45 \pm 4.45
6. Serum Sodium (m.Eq/Lit)	125 \pm 6.96	116 \pm 5.96
7. Serum Potassium ”	4.6 \pm 2.50	4.9 \pm 3.91
8. Serum Creatinine (mg 100 ml)	1.3 \pm 1.78	2.2 \pm 2.11

Serum cholestrol was 206 \pm 5.55 mg/100 ml for Primary and 225 \pm 2.13mg/100ml for the secondary hypertension patients. Total lipids and triglycerides were 649 \pm 4.37mg/100ml and 121 \pm 3.01 mg/100 ml for the primary hypertension patients respectively and 701 \pm 6.51 mg/100ml and 110 \pm 4.59 mg/100ml respectively for the secondary hypertension cases. The fasting blood sugar of the primary hypertension group was 109 \pm 7.60 while that of the secondary hypertension group was 97 \pm 3.13 mg/100ml. Blood urea was 57 \pm 6.95 and 45 \pm 4.45 mg/100 ml in primary and secondary hypertension cases respectively. Serum sodium was 125 \pm 6.96 mEq/100ml and 116 \pm 5.96 mEq/100ml while potassium was 4.6 \pm 2.50 and 4.9 \pm 3.9/mEq/100 ml respectively in the two groups. Serum creatinine levels were 1.3 \pm 1.78 mg/ 100ml and 2.2 \pm 2.11 mg/ 100ml respectively.

Table IV

Prevalence of Complications/Associated Diseases With Hypertension.

N-200

Complication	No	%
Renal Failure	39	16.5
Cerebrovascular Accident	16	8.0
Congestive Cardiac Failure	19	9.5
Ischaemic Heart Disease	29	14.5

Table IV shows the various complications in the 200 patients understudy. Renal failure was present in 39 (16.5%) , cerebrovascular accidents in 16 (5%), congestive cardiac failure in 19 (9.5%) and Ischaemic heart disease in 29 (14.5%) cases.

Discussion

Previous community studies have shown that hypertension is a common problem in Pak. istan (Syed et al., 1973; Arshad Mirza, 1976; Ilyas et al., 1980): In this study hypertension constituted 10% of all admissions to the two general medical wards in which the study was conducted. This figure is higher than that of a similar report of Rab and Shah (1977) (5.5%) and ilyas et al.,(1977) (7.8%). Since hospital based figures are known to be biased, there is no need for speculation as to the reason for the differences in the three reported figures. However these figures support the community reports regarding the high prevalence of the problem. That a fair proportion of hypertensives may be asymptomatic, has been stressed by the report of the US Joint National Committee on the Detection, Evaluation and Treatment of high blood pressure (JAMA, 1977) and this is one of the reasons for inadequate control of blood pressure in diagnosed cases Burgiand et al. (1976) reported inadequate therapy in 54% of dignosed cases in their community study. In this study 57.5% of cases admitted to hospital were on treatment but with inadequate control of their blood pressure.

Our prevalence of 16% of secondary hypertension amongst the hospital admitted cases of hypertension is much higher than the 5.8% reported figure of Bergiund et al. (1976) in their community based study and 22/300 patient reported by Haider et al. (1977). Both these authors have stressed the need for economy in the investigations of hypertensives for the purpose of discovering an underlying cause since the cost of investigations is high and yield of surgically correctable causes is very low.

The prevalence of various complications and associated problems seen in our cases is similar to that reported by Haider and Bano (1980) in their patients with moderate hypertension.

Since a fair proportion of cases are asymptomatic as pointed out earlier, the patients have to be made aware of the importance of following the physicians direction as regards therapy and followup in order to minimize the risk of complications. This point has been stressed by the US Joint Committee report (1977) on the detection, evaluation and treatment of hypertension

In conclusion we would like to repeat that hypertension is a common clinical problem with a good proportion of asymptomatic cases. Therapy is generally not adhered to regularly and the control of blood pressure is not satisfactory in a large proportion of cases. The prevalence of complications therefore is very high.

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