STUDENT SECTION PROF-965

MORBIDITY DATA ON HYPERTENSION;
A HOSPITAL BASED STUDY

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ABSTRACT... hamza_kmc@yahoo.com **Objectives:** To find out morbidity data on hypertension, in a hospital based study in Peshawar. **Study Design:** Prospective observational study. **Duration:** From march 2004 to July 2005. **Setting:** Cardiology Department of Lady Reading Hospital and Medical Department of Khyber Teaching Hospital Peshawar. **Patients and Methods:** A total of 718 patients with established diagnosis of associated complications of hypertension were included. Relevant information were recorded from the patients with the help of a pre-designed questionnaire prepared in accordance with the objectives of study. **Results:** A total of 718 patients were selected. Age ranged from patients was from 25 to 92 years with mean age of 58.5 years were included. Out of 718 sampling 433 were females and 285 were males. Three hundred and eighty three patients had more than ten years duration of the disease. The distribution of associated complications of hypertension was: coronary artery disease (61.42%), left ventricular hypertrophy/left ventricular failure (19.63%), stroke (11%), retinopathies (3.62%), end stage renal disease (1.39%), and multiple complications (2.50%). **Conclusion:** Hypertension is a major modified risk factor for coronary artery disease, stroke, eye abnormalities and end stage renal disease, which require proper counseling and management of patients.

Key Words: Hypertension, Complication of Hypertension, Peshawar

INTRODUCTION

High blood pressure (hypertension) is one of the most important preventable causes of premature death worldwide[1]. The global estimate suggests that 8-18% of adults are hypertensive (defined as either taking anti-hypertensive drugs or having a systolic blood pressure equal to more than 160mmHg and/or diastolic blood pressure equal to or more than 95mmHg) but the same definition up to one half of the people 65 years and above have raised blood pressure[2]. Hypertension is a well-established predisposing factor for cardiovascular failure (LVF), atherosclerosis, ischemic heart disease (IHD) etc that have high mentality rates[3].

Hypertension remains a major risk factor for developing fatal and non-fatal cerebrovascular accident (CVA), which causes significant disability in the survivors[4]. The average systolic blood pressure (SBP) of people aged 30 years or above estimated to 2005 (date from urban population only) reveals is 130-139 mm Hg for Pakistani adults, 120-129 mm Hg for Indians, 140 mm Hg or above for Senegal and below 120 mm Hg for adults in Thailand[5]. Dietary salt increases blood pressure in most people with hypertension and in about quarter of those with normal blood pressure, especially with increasing age. A high intake of salts independently increases the risk of CVD in over weight persons[6]. The objectives of

this study was therefore designed as to determine the morbidity data of hypertension in a hospital based study in Peshawar.

PATIENTS AND METHODS

This prospective observational study was conducted in cardiology department of Lady reading Hospital (LRH) ad medical department of Khyber teaching Hospital (KTH), Peshawar, from July 2005 to June 2005. A total of 718 patients, 285(39.69%) males and 433(60.30%) females were included. The age range of patients was from 24 to 90 years with mean age of 57 years.

Hypertension was defined as systolic blood pressure (SBP) > 140 mm Hg and diastolic blood pressure (DBP) > 95 mm Hg or both on more than one occasions[9].

Inclusion criteria was all patients wit cardiovascular disease (CVD), stroke, left ventricular hypertrophy (LVH), left ventricular failure(LVF), end stage renal disease (ESRD) and retinopathies due to causes other than hypertension.

A detailed history of patients was taken and general physical examination was carried out in all patient. Family history and duration of disease was also recorded. History was taken from close relatives, as 55 patients were comatose or aphasic. Finally statistical analysis of the results was performed and association of hypertension with specific complication was studies.

RESULTS

Out of 718 patients, 285(39.69%) were males and 433(60.30%) females. Mean age of patients was 57 years and ranged from 24 years to 90 years. Mean age of man was 65 years and for women 52 years. Out of total 383(36.76%) had family history of the disease (Table I).

Associated complications distribution was coronary artery disease (61.42%), and stroke (11.42%), LVH (10.68%), LVF (8.77%), retinopathies (3.62%), nephropathies (1.39%) and multiple complications (2.5%) (Table II). Ninety-nine (22.44%) cases of CAD are attributed to coexistence of hypertension and diabetes. Coexistence of hypertension with other risk factors of stroke and CAD is shown is (Table III). Socio-economics states of patients was: lower social class 305 (42.47%) and (12.39%) upper social class (12.39%), major reason for poor control of hypertension was poverty (48.05%). Only 9.33% of patients were entertaining regular exercise while (15.04%) of patients were using anti hypertension drugs (Table IV).

Table-I. Characteristics of hypertensive patients n= 718

1. Age Range	No	% Age
24-40 years	41	5.71
41-60 years	243	33.84
61-80 years	368	51.25
> 80 years	66	9.19
2. Sex Distribution		
Males	285	39.69
Females	433	60.30
3. Duration of Hypertension		
5 years	109	15.18
6-10 years	226	31.47
11-15 years	315	43.87
16-20 years	68	9.47
4. Family History of Hypertension		
One patient in family	102	38.63
Two patients in family	86	32.57
Three patients in family	52	19.69
More than three patients in family	24	9.09

Fourteenth patients (9 males and 5 females) had malignant hypertension with BP > 240/140 mmHg and had papilloedema. Sixty-two patients (8.63%) had accelerated hypertension i.e. BP > 200/110. Table I Various Distribution Criteria of Hypertension: Total number of patients = 718

Table-II. Morbidity Data on Hypertension.N = 718		
Complications of hypertension	**No**	**% Age**
Coronary artery disease	441	61.42
Left ventricular hypertrophy (LVH)	78	10.86
Left ventricular failure (LVF)	63	8.77
Stroke	82	11.42
Retinopathies	26	3.62
Nephropathies	10	1.39
Multiple complications	18	2.50

Table-III. Coexistence of hypertension with other risk factors of CVA and CAD.				
Coexistence of hypertension with other risk factors	**Angina = 251**	**Myocardial Infarction = 190**	**Stroke = 82**	**LVF/LVH = 141**
Hypertension only	92	77	48	80
Hypertension + Diabetes	56	43	19	33
Hypertension + Hyperlipidemia	25	16	5	8
Hypertension + Smoking	32	29	6	12
Hypertension + Obesity	28	18	2	7
Hypertension + Diabetes + Hyperlipidemia	9	4	2	1
Hypertension + Diabetes + Smoking	5	1	0	0
Hypertension + Smoking + Obesity	4	2	0	0

DISCUSSION

In 1990-94, a National health Survey on prevalence of hypertension was conducted which reveals that the prevalence was 23% in urban and 184 in rural adult aged population of pakistan[8]. In this prospective study we observed female as more hypertensive (60.30%) than males (39.69%), our findings correlates with a study done is India in a 50 years duration from 1947-97 in men and women, 40-49 years age, of urban setup[9]. Hypertension is a main risk factor to coronary artery disease, in present study (61.42%)of the total complications of hypertension are attributed to coronary artery disease.

Table IV. Socioeconomic condition, causes of poor control and treatment ratio of hypertensive patients		
1. Socioeconomic Status	**No**	**% Age**
Lower class with income < 5000/month	305	42.47
Middle class with income 5000-10,000/month	228	31.75
Middle upper class with income up to 20,000/month	96	13.37
Upper class with income > 20,000/month	89	12.39
2. Causes of poor control of hypertension		
Poverty	345	48.05
Ignorance	122	16.96
No reason	251	34.95
3. Treatment and preventive care		
Patients using anti-hypertensive drugs	108	15.04
Patients not using anti-hypertensive drugs	610	84.95
Patients doing regular exercise	67	9.33

The risk of coronary artery disease doubles for every 10-point increase in diastolic blood pressure or 20 point increases in systolic blood pressure. Strokes also shares hypertension as main risk factor and in present study (11.42%) cases of stroke were recorded with hypertension, which follows coronary artery disease and our findings correlates with WHO report 2003[11].

Hypertension is one of the important causes of End Stage Renal Disease (ESRD) worldwide and the incidence of hypertensive ESRD is increasing every year[10]. In our study we found (1.39%) 10 cases of ESRD attributes to hypertension.

Coexistence of hypertension with other risk factors of stroke and coronary artery disease (diabetes, hyperlipidemia, smoking, and obesity) was recorded in 306(42.61%) patients. Several factors have been implicated for coexistence of hypertension and type-II diabetes. One possible explanation is the diabetogenic effect of the anti-hypertensive drugs such as thiazide diuretics[13]. Another factor may be the development of hypertension due to insulin induced retention of sodium by kidneys[14] or insulin resistance in hypertensive patients which is due to specific resistance to insulin stimulated non oxidative glucose disposals, and not other metabolic actions of insulin[15].

In our patients only 108 (15.08%) patients were anti-hypertensive drugs and 84.95% were not using any medications. Our findings correlate with the study of Jone JK et al[16]. From the above discussion we will recommended that the prevention of hypertensive heart disease has to be integrated in primary health care centres are not affordable to all people of community.

Our prime targets are physical inactivity; obesity and smoking which should be prevented by psychological treatments of patients along with screening for high blood pressure, sugar and cholesterol levels.

CONCLUSIONS

Hypertension is major modifiable risk factor of coronary artery disease, stroke and end stage renal disease. Preventive approaches and education of patients about hypertension must be adopted.

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