

EXPERIENCE WITH ANTI-HYPERTENSIVE DRUG THERAPY IN A HYPERTENSION CLINIC - 1972-1983. A RETROSPECTIVE ANALYSIS

Pages with reference to book, From 91 To 93

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Abstract

Retrospective experience with drug therapy in 747 patients with essential hypertension registered from 1972-1983 is reported. Five hundred patients were seen between 1972 to 1978 and 247 between 1979-1983; the latter group was characterised by the use of beta blockers as first line drugs. Hypertension was graded according to level of diastolic blood pressure as mild, moderate and moderately severe or severe in 423, 211, and 113 patients, respectively. The overall response to treatment at 6 months was satisfactory in 66.2% of mild, 50.2% of moderate and 58.4% of severe grades of hypertension. A large number of patients in both the groups having varying grades of severity needed at least 2 to 3 drugs for the control of hypertension. The side effects of drugs were generally mild which included general weakness with diuretics; skin rash, nasal congestion and pruritus with methyldopa; cold extremities with beta blockers and palpitations with prazosin (JPMA 40: 91, 1990).

INTRODUCTION

Hypertension is a chronic disease which needs life long treatment to prevent complications. The benefits of treatment in moderate and severe hypertension are well established¹. Recent studies have suggested benefits of active therapy in mild hypertensives who constitute the bulk of hypertensive population²⁻⁴. Drug therapy in hypertension presents many problems like side effects of drugs, patient compliance and cost of treatment besides the need to individualise management in patients. In this retrospective study we communicate our experience with drug therapy in patients attending a hypertension clinic.

PATIENTS AND METHODS

Case records of 747 patients with various grades of essential hypertension attending the Hypertension Clinic of PMRC Research Centre, Sir Ganga Ram Hospital Lahore, were reviewed retrospectively for the assessment of response. Hypertension was diagnosed when systolic blood pressure was above 150mm of Hg and diastolic above 90mm of Hg. The severity of hypertension was categorised according to the level of diastolic blood pressure as Mild (91-110mm of Hg), Moderate (111-120mm of Hg), Moderately severe (121-130mm of Hg) and severe (above 130mm of Hg). Blood pressure was measured after 10 minutes of rest with a mercury Sphygmomanometer using Standard Size cuff. In uncomplicated cases, assessment of patients was done after 3 visits to clinic at weekly intervals. However, those with a diastolic blood pressure of 120mm or above were evaluated and treated on a more urgent basis. Each patient was investigated according to the standard protocol⁵. Active antihypertensive therapy was given in mild cases particularly if associated with target organ involvement, presence of risk factors like diabetes, strong family history of hypertension, smoking, high blood cholesterol and younger age (less than 50 years). During the earlier period i.e. 1972-78, drug therapy consisting of a diuretic followed by met hyldopa and drugs like Reserpine, Adeiphane,

and Guanethidine were used. During the time period 1979-83, a different regimen was used, which consisted of the use of betablocker or a diuretic in stage-I; betablocker and diuretic in stage-II, betablocker, diuretic and a vasodilator in stage-III, and addition of Guanethidine or others in stage-IV. For the purpose of evaluation, the response to treatment among various grades of hypertension was categorised as satisfactory if: In mild hypertension: Patients were less than 50 years of age and diastolic blood pressure was below 90mm of Hg during at least two-third of their attendance at the clinic or the patients were above the age of 50 years with a diastolic blood pressure of less than 95mm of Hg during two-third of their visits. In moderate hypertension: During two third of total attendance, the diastolic blood pressure was below 100mm of Hg. In moderately severe and severe hypertension: The response was considered satisfactory if diastolic blood pressure was below 104mm of Hg during two-third attendance at the clinic. However, all efforts were made in each case to lower the blood pressure to below 90mm without unacceptable side effects. The results of drug therapy were evaluated in only those patients who were followed up for a minimum of 6 months. Those with a follow up of less than 6 months or irregular attendance were categorised as "Inadequate follow up".

RESULTS

Results are divided into two groups. Group A comprised of 500 patients attending the Clinic from 1972-1978 and Group B included 247 patients seen between 1979-1983.

Group A

Of 500 hypertensives, 300 had mild, 137 moderate and 63 moderately severe and severe hypertension. The mean values of age and sex distribution, in the three sub-groups are shown in Table I.

TABLE I. Age and Sex distribution in 500 hypertensive cases (Group 'A').

Age & Sex	Mild hypertension n = 300	Moderate hypertension n = 137	Moderate severe & severe hypertension n = 63
Mean age (years)	50.55	49.38	44.50
Sex			
Male	84	56	31
Female	216	81	32

Response to anti-hypertensive therapy in various grades of severity is shown in Table II.

TABLE II. Response to treatment in 500 hypertensive patients of various severity (Group 'A').

Treatment	Mild hypertension n = 300			Moderate hypertension n = 137			Severe hypertension n = 63		
	Satis- factory	Poor	Inade- quate followup	Satis- factory	Poor	Inade- quate followup	Satis- factory	Poor	Inade- quate followup
1. Salt restriction	57	4	-	-	-	-	-	-	-
2. Single drug therapy	85	15	-	16	4	-	-	-	-
3. Two drugs therapy	48	16	-	44	19	-	20	7	-
4. Three drugs therapy	8	10	-	10	11	-	19	4	-
5. More than three drugs	-	-	-	-	4	-	1	-	-
6. Inadequate followup	-	-	57	-	-	29	-	-	12
Total	198	45	57	70	38	29	40	11	12

Of the 300 patients with mild hypertension, 57 were controlled on salt restriction, 85 with a single drug, and 48 on a two drug regimen. Eight patients with mild hypertension were controlled with three drugs, while 45 patients showed poor response to various regimens. However, poor compliance could not be ruled out. In 57 patients the duration of follow up was inadequate for evaluation. Of 137 patients with moderate hypertension, 16 were controlled with a single drug, 44 with two drugs, and 10 with three drugs, while 38 patients showed a poor response to therapy for various reasons. In 29 cases the followup was inadequate for assessment. Of 63 cases with moderately severe to severe hypertension, 20 showed a satisfactory response to a combination of two drugs, and 19 needed three drugs for control. Eleven patients showed a poor response, and in 12 the followup was inadequate. Side effects: Thirty five of 272 patients on diuretics complained of generalised weakness and lethargy. Coldness of hands and feet was reported by 4 of 36 patients using beta blockers. Of 192 patients on methyldopa 2 each complained of skin rash and nasal congestion and one generalised pruritus. Of 31 patients on prazosin, palpitations were reported by 7 and one out of 7 on guanethidine reported postural hypotension.

GROUP B

This group of 247 hypertensive patients included 123 with mild, 74 with moderate and 50 with moderately severe and severe disease. The mean values of age and sex distribution are shown in Table III.

TABLE III. Age and sex distribution among 247 hypertensives taking beta-blockers, diuretics and vasodilators (Group B).

	Mild n = 123	Moderate n = 74	Moderately severe & severe
Mean age (years)	42.79	45.86	42.46
Sex			
Female	69	42	23
Male	54	32	27

Response to anti-hypertensive therapy in various grades of severity is shown in Table IV.

TABLE IV. Response to treatment with beta-blockers, diuretic and Vasodilator in 247 hypertensive patients of various grades (Group B).

	Mild n = 123			Moderate n = 74			Moderately severe/severe n = 50		
	Satis- factory	Unsatis- factory	Inade- quate followup	Satis- factory	Unsatis- factory	Inade- quate followup	Satis- factory	Unsatis- factory	Inade- quate followup
Beta blocker	38	4	25	3	11	24	-	-	17
Beta blockers & Diuretics	28	6	-	17	3	-	6	-	-
Beta blockers & Diuretic & Vasodilator	16	6	-	16	-	-	20	7	-
Total	82	16	25	36	14	24	26	7	17

Of 123 patients with mild hypertension 38 were controlled with a beta blocker, 28 with diuretic-beta-blocker combination and 16 with three drugs combination while 16 patients showed a poor response to various regimens. Duration of follow up was inadequate in 25. Of 74 with moderate diseases, only 3 showed satisfactory response with beta-blockers alone, 17 with a combination of diuretic and beta-blockers while 16 with satisfactory control were taking vasodilators alongwith diuretic and beta-blockers. Fourteen patients were poorly controlled and 24 had inadequate follow up. Of 50 patients with moderately severe and severe disease, satisfactory response was obtained in 20 with three drug combination, in 6 with two drug combination while 7 showed poor response to 3 drugs. Follow up was inadequate in 17. The reported side effects, with beta-blockers included cold extremities (4,) gastrointestinal disturbances (4), bradycardia (2) and nightmares (1).

DISCUSSION

Our experience shows that over 50% of the patients were controlled with drug therapy at least over the period of observation which was admittedly short i.e. six months. A large number of patients in all grades of severity needed at least two drugs for effective control. It has been observed that the introduction of an anti-hypertensive drug sets into motion counter-acting mechanisms in the body which tend to neutralise the action of the drug. Thus, fluid retention, cardiac stimulation, hyperreninemia, and reflex increase in total peripheral resistance have all been described with various groups of drugs. Contrary to common impression, some cases of mild hypertension may be difficult to control and the so-called 'resistant hypertension' is not always a real entity. In this situation, lack of compliance, drug intolerance, excessive salt intake and interaction with other drugs should be excluded. Another phenomenon contributing to resistant hypertension may be a tendency to record higher blood pressure on a visit to a hospital clinic as compared to the one recorded at home; the so called "Office hypertension". This subject of resistant hypertension has been well reviewed by Gifford and Tarazi⁶. Several drugs interfere with the action of anti-hypertensive drugs. In this country with so many drugs available "off the counter" the sources of potential confusion are quite significant. This calls for a stringent drug history when evaluating poor response to anti-hypertensive therapy. Another potential point of intervention in treating hypertension is the correction of obesity, particularly when a large number of our hypertensives are obese⁷. The true incidence of side effects is difficult to estimate due to inadequate follow up in a large number of patients. The reported side effects were generally related to the pharmacological actions of the drug. Three cases showed an idiosyncrasy to methyldopa, i.e., skin rash in 2, and intractable pruritus in 1. While depression was not volunteered by patients, we are unable to make any comments on the possible incidence of impotence. This is a symptom which most patients are reluctant to divulge. The side effects of propranolol were cold extremities, bradycardia, and nightmare and few patients on prazosin complained of palpitation. The advent of two new groups of drugs i.e., ACE inhibitors and calcium antagonists have added a new dimension to the treatment of

hypertension. They are not only useful as first line drugs but are also highly effective in the severe grades of hypertension. Their side effect profile is low with less interference with life style of the patient. Most long term trials of hypertension are with earlier drugs, and prospective studies with these drugs are clearly of great interest, particularly in terms of reduction in mortality from coronary heart disease. This study being a retrospective analysis of uncontrolled data is of limited value and conclusions drawn can only be tentative. However, it provides a general experience of treating a large number of hypertensives over a period of time in the setting of a local hypertension Clinic. It also highlights the broad spectrum of essential hypertension with a variable response to drug therapy. Any final conclusions particularly with regard to the relative long term efficacy of old and new drugs will require well controlled prospective studies.

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