Prazosin in Hypertension-Two Years Followup of 100 Cases

Pages with reference to book, From 135 To 138

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Abstract

One hundred cases of hypertension were investigated and treated with Prazosin alone, Prazosin with a diuretic and Prazosin, Diuretic and a Beta-adrenergic blocker. They were followed up for two and more than two years. Prazosin was found to be very safe and effective antihypertensive drug either alone or in combination with a Diuretic, or Beta-adrcnergic blocker in various grades of hypertension. Average fall of blood pressure on standing was 32.92 systolic and 22.27 diastolic. Side effects were mild and only five patients had to stop taking their drug. Prazosin was specially found quite safe antihvpertensive drug in hypertension with uraemia (JPMA 32:135, 1982).

Introduction

Evergrowing importance of hypertension is reflected from the epedemiological studies. Nearly 20% of the population in America is suffering from hypertension (Page and Sidd, 1972). In Karachi, it has been reported in 12.4% of the population in a community (Abbasi and Syed, 1966). Recent survey in a European population has shown, that between 10 to 15% of adults are suffering from high blood pressure. Incidence of hypertension is low in developing countries. It is uncommon in certain African countries (Donnison, 1929). In Libyans it was 3% of the total medical admissions (Qazilbash, 1977). Modest rise of blood pressure is associated with 76.4% higher death rate in middle age, while the treatment ot hypertension has reduced the death rate from 55% to 18%.

Various drugs have been used for the treatment of hypertension either alone or in cornbination with other antihypertensive drugs, but uptill now no satisfactory (Irug with all the ideals has been discovered. In most of the patients with primary hypertension high peripheral vascular resistence is the cause of elevated arterial pressure, cardiac output is usually within normal limits, although it may he initially elevated. Arterial pressure can be lowered either by decreasing cardiac output or by decreasing peripheral resistence. Prazosin Hydrochloride is an alpha-ádrenoreceptor blocker. It lowers the blood pressure by relaxation of arteriolar smooth muscles, leading to reduction of total peripheral resistence, this blockade appears to be post-junctional, which explains the absence of tachycardia and release of Renin. Prazosirt has also been reported to reduce cholesterol (Oliver et al., 1978), and Cholesterol fraction in low density lipoproteins and very low density lipoproteins (Leren et al., 1980).

A trial of Prazosin (Minipress) was starteu in April 1978 and 120 cases of hypertension were studied, twenty cases (17%) were excluded because of various reasons.

Material and Methods

One hundred and twenty patients with high blood pressure were admitted in medical unit at Khybcr Hospital, Peshawar. All these cases, were assessod clinically, detailed history was taken and a thorough clinical examination was conducted including fundoscopy. Blood pressure was recorded daily in the morning and evening, both the in lying and standing position with a standard murcury syphygmomanometer for three days, standing blOOd pressure was recorded at least 2 minutes after standing. Fifth phase of Korotkov was taken as diastolic reading. During these three days,, all the laboratory investigations which included routine blood count, Urine examination on three different occasions, blood urea, serum creatinine, fasting blood sugar, creatinine clearance, serum cholesterol,

triglycerides, total lipids and electrolytes were done, ECG was recorded in each patient.
Radiological investigation included chest X-ray, plain X-ray, Abdomen, and I.V.P. Renal Scan was done in those patients whose blood urea was above 100 mg percent and in some renogram was also performed.
Prazosin was started ofl the 4th day. Fifteen patients (12.5%) did not report for followup. So were dropped and five patients (4%) stopped taking drug due to side effects which was thought to be probably due to prazosin. Hundred cases have been followed for a minimum period of 2 years and some more than 2 years.

Results

Age and Sex:

Table I Age and Sex

Age (Years)	*Male*	*Female*	*Total*	*Percent*
12-21	2	1	3	3%
21-30	3	2	5	5%
31-40	4	6	10	10%
41-50	30	22	52	52%
51-60	20	10	30	30
	59	41	100	

Table I shows the Age and Sex distribution in 100 patients.

Grades of Hypertension:

Fifty four patients had moderate hypertension (54%), twenty six (26%) mild and 20 had severe hypertension (20%) (Table II).

Table II

Grades of Hypertension

Grades	*Male*	*Female*	*Total*	*Percent*
Mild	20	16	26	26%
Moderate	30	24	54	54%
Severe	12	8	20	20%

Type of Hypertension:
Eighty two patients had essential hypertension while 18 had secondary hypertension, ten were diabetic, four had pyelonephritis. Two had Glomerulone phritis. One coarctation of aorta, and cne had Cushings disease (Table III).

Retinopathy:
Seventy patients (70%) had grade II Retinopathy while twenty had grade I (20%) and 5 each had grade III and IV.

Table III

Type of Hypertension

Type	*Male*	*Female*	*Total*	*Percent*
Essential	52	30	82	82%
Secondary	10	8	18	18%

Table IV

Groups Regarding Treatment

Group	Drugs	Male	Female	Total	Percent
I	Minipress Alone	20	16	36	36%
II	Minipress Plus Diuretic	24	20	44	44%
III	Minipress Plus Diuretic and Deta-Blockers	12	8	20	20%

Laboratory Investigation:

Twenty six patients had high blood urea, with high creatinirie levels. 14 of them had blood urea above 100 mg%, Serum Cholesterol was high in 52 patients and hlocd sugar In 10 cases.

Urine examination was done thrice in each patient. Every patient had urine culture done. Thirty cases had positive urine culture, E. Coli being the commonest organism isolated.

Sixty two patients (62%) had E.C.G. abnormality of left ventricular hypertrophy, of these 40 were males and 22 females. Radiological studies of chest showed enlarged heart in 36 patients 24 of these were males and 12 females. IX.P. was done in all cases with normal blood urea.

For treatment patients were divided into three groups (Table IV). Group I included 36 patients whose blood pressure was controlled with prazosm alone. In group IT, 44 patients required addition of a diuretic with prazocin to control the blood pressure. Twenty patients in group III were treated with prazosin, diuretic and beta-ad renergic blocking agents.

Discussion

Our findings indicate that Prazosin used alone or in combination with other antihypertensive agents is effective to reduce the blood pressure to normal levels. It is well tolerated and there is quite an appreciable fall. In supine as well as standing blood pressure, in supine posture fall of pressure on an average was 32.56 in systolic and 19.83 in diastolic pressure. In standing posture the fall in systolic pressure was 32.92 aad in diastolic pressure it was 22.27. Similar improvement has been reported by Stokes and Weber (1974), Hayes etal. (1976), Garden Stokes et al. (1975). We found Prazosin to be quite effective either alone or with a diuretic in mild and few moderate hypertensives, which has also been reported by LundJohansen (1974), Venables and Duff, (1974) and Bolzano (1974), Adriaensen and Vryens (1975), Rougier et al. (1974) Turner et al. (1975).

Table V

Average Fall in Blood Pressure (mmHg)

Position	Systolic	Diastolic
Supine	32.56	19.88
Standing	32.92	22.27

Our experience has not been encouraging with Prazosin alone or with a diuretic in some cases of moderate and most of the severe cases of hypertension. We used mostly either frusamide or Aprinox as a diuretic. In such cases a beta-adrenergic blocker Propranalol was added to the treatment. These patients were already taking 12 to 16 mg of Prazosin in divided (loses and a diuretic once or twice a day. Addition of beta-blocker in these eventually controlled the blood pressure. Successful control of blood pressure by combination of Prazosin and beta blocker has also been reported by Sanner Stedt et al. (1972), Zacest (1972), Gotlieb et al. (1972), Gorden et al. (1974), Koch-Weser (1974), Kincaid-Smith et al. (1975), Bolli and Simpson (1975), Turner et al. (1975).

High blood urea was recorded in 26 patients, 14 of these had a blood urea of over 100 mg%. In these cases we found Prazosin to be quite safe drug in lowering the blood pressure. without further deterioration in the kidney function. 8 oUt of 26 cases with high blood urea died (31%). In these patients we noticed progressive fall in the blood pressure with a gradual fall in blood urea and Creatinine Ievels and also improvement in kidney function. Comparatively small close of prazosin, was required in such cases. Effective use of prazosin in hypertens:on Diaslolic with Ureamia has also been reported by Curtis and Bateman (1975), Hayes et al. (1974), Pitts (1975).

First dose phenomenon as reported by Hayes et. al. (1976) and Kincaid Smith et al. (1975) with Prazosin was also noted by us, in two of our patients. Postural hypoten sion was recorded in 5 patients. In such cases the dose of Prazosin was gradually increased without any further attacks. This phenomenon was not noticed again once the first dose was started before going to bed at night.

Side effects recorded during the trial of Prazosin with or without diuretics were postural hypotension, dizziness specially while travelling. Some patients complained of headache, loose bowels. Urinary frequency, lassitude, excessive sleep, dryness of mouth, nausea, vomiting, diarrhoea and menstrual irregularity. These side effects were in general mild and they gradually disappeared on reassuring the patient and none of them stopped taking their drug.

Five patients stopped taking Prazosin because of side effects, three complained of tachycardia, one patient developed anginal type of chest pain and one lady teacher developed frequent extrasystoles giving her unpleasant feeling.

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