

DEPRESSION IN HYPERTENSIVE SUBJECTS

V. RAMACHANDRAN,¹ M.D., D.P.M., F.R.C. Psych., Ph. D.

G. J. PARIKH² M.D., F.C.C.P.

V. SRINIVASAN,³ M. B. B. S.

SUMMARY

168 patients attending hypertension clinic were randomly selected for the study. They were thoroughly investigated using E. C. G., X-ray chest, Urine analysis, Blood sugar, Blood urea, Serum cholesterol, Serum K, Serum Na, Serum creatinine and Uric acid level. Detailed psychiatric case history and mental examination was carried out. Beck Rating Scale was used to measure the depression. 25% of hypertensive subjects exhibited depressive features and their mean score in Beck Rating scale is 21.76. The mean score of non-depressives is 4.46.

All patients were receiving methyl dopa 25 mg. twice or thrice daily with thiazide diuretic. No significant difference in the incidence of depression with the duration of medication was observed.

The hypertension was classified into mild, moderate and severe depending on the diastolic pressure. Depression was more frequent in severe hypertensives but not to the statistically significant level.

Further hypertensives were classified into :

1. Hypertension without organ involvement
2. Hypertension with LVH only
3. Hypertension with additional organ involvement
4. Malignant hypertension

Depression was significantly more frequent in hypertensives with complications and also hypertensives in whom the B. P. remained uncontrolled. As all the patients were on the same drug, the drug effect is common to all; hence, the higher incidence of depression in hypertensives with complications is due to the limitation and distress caused by the illness.

Now and then a patient on treatment for hypertension is being referred for depression and suicidal rumination. Some hold the view that the depression in them is due to the effect of hypotensive drugs on cerebral monoamines and could be described as 'Biochemical depression'. Others argue that the depression in these subjects is rather due to the fear and reaction to the various limitations and discomfort caused by the illness. This study aims at :

1. Finding out the prevalence of depression in hypertensive subjects.
2. The occurrence of depression in relation to their drug taking and severity of the illness.

MATERIAL AND METHOD

Patients attending hypertension clinic at Kilpauk Medical College Hospital Madras were chosen randomly for the study. A proforma was employed to record the clinical history and the findings in these cases. Patients in whom the diagnosis of hypertension was confirmed only were taken up for the study. All these patients were investigated with E. C. G., X-ray chest, urine analysis, blood urea, blood sugar, serum cholesterol, creatinine, uric acid, serum K and serum Na. A detailed history of anginal attack, congestive failure, central nervous system disturbances and associated conditions like diabetes was obtain-

1. Addl. Professor of Psychiatry, Madras Medical College & Neuropsychiatrist, Institute of Mental Health, Madras-600 010.

2. Asst. Professor of Medicine, Kilpauk Medical College, Madras-600 010.

3. Assistant Surgeon, Primary Health Centre, Alangayam, North Arcot district, Tamil Nadu.

ed. The hypertension was classified into mild, moderate and severe according to the level of diastolic pressure; between 95 and 110 mm of Hg is considered mild, 110 to 125 moderate and above 125 severe.

Further hypertensives were classified into :

1. Hypertension without organ involvement
2. Hypertension with LVH only
3. Hypertension with additional organ involvement
4. Malignant hypertension.

All the patients were put on methyl dopa twice or thrice daily along with thiazide diuretic. Some received propranolol 20 or 40 mg b.d. in addition.

A detailed psychiatric case history was taken and mental status was assessed by clinical interviews. Further Beck rating Scale was used for measuring depression. As a number of subjects had difficulty in reading, it was uniformly administered in the form of structured interview as described by Ajmani and Nandi (1973).

RESULTS

Totally, 168 subjects were examined, 42 (25%) subjects were found to exhibit features of depression. Their average score on 'Beck Depression Rating Scale' is 21.76 and S.D. is 4.39. The average score of non-depressed subjects was 4.46 and the S. D. was 1.85.

Table I gives the sex ratio, age distribution, income group and civil status of the subjects studied and the depressed group. No significant difference observed in these socio-demographic variables between depressed and non-depressed group.

Table II gives the prevalence of depression in relation to the severity of hypertension. 21% of mild hypertensives, 29% of moderate hypertensives and 57% of severe hypertensives were found

to suffer from depression. However the difference failed to reach statistically significant level. Studying the prevalence of depression in hypertensives

TABLE 1. *Depression in Hypertensive Subjects : Socio-demographic features*

	Depressed (N=42)		Normal (N=126)	
	N	%	N	%
I. Sex:				
Male (N=110)	28	28.5	82	74.5
Female (N=58)	14	24.1	44	75.9
$X^2=0.004, N. S.$				
II. Age:				
41—50 (N=65)	13	20.0	52	80.0
51—60 (N=62)	19	30.2	43	89.8
61 and above (N=41)	10	24.4	31	75.6
$X^2=3.90, N. S.$				
III. Income (in Rs. per month) :				
Below 100 (N=33)	12	36.4	21	63.6
100—299 (N=70)	18	25.7	52	74.3
300—499 (N=45)	9	20.0	36	80.0
500 & above (N=20)	3	15.0	17	85.0
$X^2=3.94, N. S.$				
IV. Marital Status :				
Single (N=4)	1	25.0	3	75.0
Married (N=108)	25	23.1	83	76.9
Widowed (N=56)	16	28.6	40	61.4
$X^2=0.578, N. S.$				

TABLE 2. *Severity of Hypertension and Depression*

	Depressed (N=42),		Normal (N=126)	
	N	%	N	%
I. Hypertension :				
Mild (95—110) (N=120)	26	21.7	94	78.3
Moderate (110—125) (N=41)	12	29.3	29	70.0
Marked (125 and above) (N=7)	4	57.1	3	42.9
$\chi^2=4.966, p<0.05$				
II. Hypertension without or- gan invol- vement (N=80)				
	12	15.0	68	85.0
Hyperten- sion with LVH only (N=65)				
	15	23.0	50	77.0
Hyperten- sion with additional organ invol- vement (N=20)				
	13	65.0	7	35.0
Malignant (N=3)				
	2	66.7	1	33.3
$\chi^2=24.239, p<0.05$				
III. Hyperten- sion contro- lled (N=130)				
	27	20.8	103	79.2
Hyperten- sion uncont- rolled (N=38)				
	15	39.5	23	60.5
$\chi^2=5.487, p<.05$				

without any complication and hypertensives with left ventricular hypertrophy and other organ involvement, the depres-

sion was found significantly less in uncomplicated hypertensives.

The next table gives the prevalence of depression in hypertensives where B. P. was controlled and B. P. remained uncontrolled. Depression was significantly higher in whom the B. P. remained uncontrolled.

Table III gives the duration of drug taking and observed depression. Statistically no significant difference in the occurrence of depression was noted. However it was noted that nearly 24% of subjects were not regular in medicine, however almost all the patients studied had been regular in medicine for about 3 months prior to this study.

TABLE 3. *Duration of Drug Treatment and Hypertension*

	Depressed (N=42)		Normal (N=126)	
	N	%	N	%
<i>Treatment Duration :</i>				
3 to 6 months (N=40)	8	20.0	32	80.0
6 months to 1 year (N=62)	17	27.4	45	72.6
1 year to 2 years (N=52)	11	21.2	41	78.8
More than 2 years (N=14)	6	42.9	8	57.1
$\chi^2=3.501, N. S.$				

DISCUSSION

Depression is one of the well recognised side effect of anti-hypertensive drugs. Bulpitt and Dollery (1973) studying the side effects of hypertensive drugs by a self administered questionnaire reported that upto 37% of patients of different hypotensive drugs exhibited depression. Bant (1974) assessed the mood of patients attending hypertension clinic using

British Hospital Progress Test and found the overall incidence of depression similar to that found by Bulpitt and Dollery.

In the present study random sample of subjects attending hypertension clinic was clinically assessed for depression by psychiatric examination and the depression rated using Beck Scale. 25% of the subjects attending hypertension clinic were found depressed and their mean score on Beck Scale was 21.76.

Schwarz (1973) carried out a longitudinal study of mood changes in patients receiving reserpine, clonidine and placebo and concluded that patients on reserpine showed a definite depressive reaction, whereas those on clonidine and placebo did not. Bulpitt and Dollery (1973) on the other hand did not find any statistically significant difference in the incidence of depression in patients on different drugs which included reserpine, methyl dopa, guanethidine and bethanidine.

Bant (1974) using the same criteria in a group of chronic chest patients and hypertensives found no difference in the incidence of depression between the two groups, suggesting that depression is probably more related to factors in chronic illness than factors specific to hypertension. He further observed that the form of depression seen in hypertensive was rather chronic and most likely a reflection of the illness and could best be called 'illness effect'.

In the present study depression was found more prevalent in hypertensives

with complications and in hypertensives whose B. P. remained uncontrolled. Since the patients were on the same drug the drug effect is common to all, the higher incidence of depression in hypertensives with complication is probably due to the limitations and distress caused by the illness.

Robinson (1962) Sainsbury (1964) Kidson (1978) reported that patients with known hypertension could be described as more neurotic than the control population. Kidson (1973) further observed that the neurotic condition occurring in hypertensive patients can be considered to be a reactive state.

REFERENCES

- AJMANY, S. AND NANDI, D. N. (1973). Adaptation of A. T. Beck et al's 'An inventory for measuring depression'. *Indian J. Psychiat.*, 15, 386.
- BANT, W. (1974). Do antihypertensive drugs really cause Depression? *Proc. Roy. Soc. Med.*, 67, 919.
- BULPITT, C. J. AND DOLLERY, C. T. C. (1973). Side effects of hypertensive agents evaluated by a self-administered questionnaire. *Brit. Med. J.*, 111, 485.
- KIDSON, M. A. (1973). Personality and hypertension. *J. Psychosom. Res.*, 16, 35.
- ROBINSON, J. O. (1962). A study of neuroticism and casual arterial blood pressure. *Br. J. Soc. Clin. Psychol.*, 2, 56.
- SAINSBURY, P. (1964). Neuroticism and hypertension in an outpatient population. *J. Psychosom. Res.*, 8, 235.
- SCHWARZ (1973). *Archiv fur Psychiatric and Nervenkrankheiten*. 218, 41. Quoted by: Bant, W. (1974). Do antihypertensive drugs really cause depression? *Proc. Psy. Soc. Med.*, 67, 919.