HYPERTENSION CONTROL AND DEPRESSION A STUDY IN SSPM MEDICAL COLLEGE & LIFETIME HOSPITAL PADAVE SINDHUDURG

Dr. Sheetal Ratankumar Gatagat

(MD, DNB), Associate Professor, Dept. of General Medicine, Sindhudurg Shikshan Prasarak Mandal Medical College and Life Time Hospital Sindhudurg, Maharashtra.

Article Info: Received 06 January 2020; Accepted 07 February 2020

DOI: <https://doi.org/10.32553/ijmbs.v4i2.985>

Corresponding author: Dr. Sheetal Ratankumar Gatagat

Conflict of interest: No conflict of interest.

Abstract

Introduction: Hypertension is a major public health issue worldwide, affecting millions of patients. Although control rates have improved during the past few years, the actual rate is still unacceptably low, and control rates in more vulnerable populations, like people living with diabetes mellitus, are even lower. Optimal BP control could prevent a high percentage of coronary heart disease events, and early BP control significantly reduces the risk of stroke and cardiovascular events. Depression is usually not detected at primary levels, and patients do not typically receive adequate treatment, which may not only affect their quality of life, but may also interfere with the treatment and prognosis of other chronic diseases such as ischemic heart disease and stroke.

Material and Methods: 46 hypertensive patients undergoing antihypertensive therapy for longer than six months were included in the study. After a 5 min of rest period, measurement of BP was recorded in triplicate at 3 min intervals between measurements. Adherence to antihypertensive therapy was monitored. All patients completed the Zung Self-rating Depression Scale survey; depression was diagnosed if the patient scored >50 points (the maximum possible score using this scale was 80). The Zung Self-rating Depression Scale is said to be a sensitive measure of clinical severity in depressed patients.

Results: Out of 46 patients there were 22 (47.8%) female and 24(52.2%) male. Patients who were depressed were 20 (43.5%) of which 8(40%) were male and 12 (60%) were female. Of the total 20 depressed patients 1 male having controlled hypertension while 19 (80%) were in the group of uncontrolled diabetes. In controlled hypertension group only 1 mild depression patient was observed while in uncontrolled group of the 19 patients 10 (50%) were having mild, 8 (40%) were having moderate and 1 (20%) were having severe depression according the Zung Self-rating Depression Scale. Mean blood pressure in depressed controlled BP group was 128/73 mmHg while in depressed uncontrolled group was 149/90 mmHg. Mean blood pressure in normal controlled BP group was 121/75mmHg while in depressed uncontrolled group was 146/95 mmHg. There was a significant correlation observed between depression and systolic and diastolic blood pressure value ($P<0.001$).

Conclusion: Depression is common in patients having uncontrolled hypertension and screening of depression in hypertensive patients is simple and effective tool to control the hypertension.

Keywords: Hypertension, Depression, controlled, uncontrolled.

Introduction

Hypertension is a major public health issue worldwide, affecting millions of patients. Although control rates have improved during the past few years, the actual rate is still unacceptably low, and control rates in more vulnerable populations, like people living with diabetes mellitus, are even lower. Because hypertension is a major risk factor for cardiac and cerebrovascular events, patients with uncontrolled or poorly controlled blood pressure (BP) are at high risk for serious morbidity and mortalityⁱ. Literatures suggest that individuals experiencing depression are at high risk for developing hypertension, as well as being predisposed to stroke and ischemic heart

disease and depression may put patients at higher risk for heart disease, stroke and death^{ii, iii}.

Despite the availability and efficacy of antihypertensive drugs, about 70% of hypertensive patients do not reach the target of <140/90 mmHg with monotherapy, and only a small proportion of high risk patients reaches the goal of <130/80 mmHg e.g. in patients with diabetes, chronic kidney disease, or coronary artery disease, making combination therapy necessary to achieve these targets with minimal adverse effects. The extra BP reduction from combining drugs from two different classes is approximately 2 to 5 times greater than doubling the dose of one drug^{iv}. Also optimal BP control could prevent a high percentage of coronary heart

disease events, and early BP control significantly reduces the risk of stroke and cardiovascular events^v.

Depression is usually not detected at primary levels, and patients do not typically receive adequate treatment, which may not only affect their quality of life, but may also interfere with the treatment and prognosis of other chronic diseases such as ischemic heart disease and stroke². The aim of the present study was to determinate whether depression influences blood pressure control.

Material and Methods

Present study was carried out in the department of Medicine at Sindhudurg Shikshan Prasarak Mandal Medical College and Lifetime Hospital Sindhudurg Maharashtra. 46 hypertensive patients undergoing antihypertensive therapy for longer than six months were included in the study. After a 5 min of rest period, measurement of BP was recorded in triplicate at 3 min intervals between measurements. Adherence to antihypertensive therapy was monitored. All patients completed the Zung Self-rating Depression Scale survey; depression was diagnosed if the patient scored >50 points (the maximum possible score using this scale was 80). The Zung Self-rating Depression Scale is said to be a sensitive measure of clinical severity in depressed patients^{vi}.

Patients with secondary hypertension; hypothyroidism; psychological disorders, patients with a history of alcohol were excluded from the study.

Statistical analysis was done. Associations between the results from the blood pressure and depression tests were determined using the Spearman correlation coefficient

Results

A total of 46 patients were included in the study undergoing antihypertensive therapy for longer than six months.

Table 1: Base line characteristics of the patients

	Depressed		Not depressed		
	Blood pressure (BP)				
	Controlled	Uncontrolled	Controlled	Uncontrolled	TOTAL
Age Mean	59	61	59	60	
Male	1	7	7	9	24
Female	0	12	4	6	22
Blood pressure, systolic/diastolic, mmHg	128/73	149/90	121/75	146/95	
Depression					
Mild	1		10		11
Moderate	0		8		5
Severe	0		1		1

Out of 46 patients there were 22 (47.8%) female and 24(52.2%) male. Patients who were depressed were 20 (43.5%) of which 8(40%) were male and 12 (60%) were female. Of the total 20 depressed patients 1 male having controlled hypertension while 19 (80%) were in the group of uncontrolled diabetes. In controlled hypertension group only 1 mild depression patient was observed while in uncontrolled group of the 19 patients 10 (50%) were having mild, 8 (40%) were having moderate and 1 (20%) were having severe depression according the Zung Self-rating Depression Scale.

Mean blood pressure in depressed controlled BP group was 128/73 mmHg while in depressed uncontrolled group was 149/90 mmHg. Mean blood pressure in normal controlled BP group was 121/75mmHg while in depressed uncontrolled group was 146/95 mmHg. There was a significant correlation observed between depression and systolic and diastolic blood pressure value ($P<0.001$)

Discussion

Hypertension is one of the most important risk factors for stroke, coronary heart disease, heart failure and end-stage renal disease. Detection and treatment of hypertension, it still remains a major public health problem^{vii}. Poor adherence to antihypertensive treatment is a major modifiable barrier to controlled blood pressure. Depression is common in patients having hypertension and is also associated with adverse health outcomes and excessive use of healthcare resources^{viii}.

In the present study we observed that a high prevalence of depression in uncontrolled hypertensive patients. In this study systolic and diastolic control was poor amongst depressed patients as systolic blood pressure control is typically more difficult to maintain than diastolic blood pressure control^{ix}.

Rabkin et al. observed that hypertension was 3 times more prevalent in depressed patients when compared with those without depression^x. Feeling of hopelessness toward hypertension, frustration with treatment and perceived anxiety with blood pressure measurement were associated with poor high blood pressure control was observed in a study by Jokisalo et al^{xi}. Licht et al observed an association between depression and decreased blood pressure^{xii}. Depressed patients may have poor control of their BP as they may have lost interest in adhering to their therapeutic regimen^{xiii}.

Conclusion

Depression is common in patients having uncontrolled hypertension and screening of depression in

hypertensive patients is simple and effective tool to control the hypertension

References

1. Ong KL, Cheung BM, Man YB, Lau CP, Lam KS. Prevalence, awareness, treatment, and control of hypertension among United States adults 1999-2004. *Hypertension*. 2007 Jan; 49(1):69-75.
2. Meng L, Chen D, Yang Y, Zheng Y, Hui R. Depression increases the risk of hypertension incidence: a meta-analysis of prospective cohort studies. *J Hypertens*. 2012 May; 30(5):842-51.
3. O'Connor CM, Gurbel PA, Serebruany VL. Depression as a risk factor for cardiovascular and cerebrovascular disease: Emerging data and clinical perspectives. *Am Heart J*. 2000;140:S63-9.
4. Wald DS, Law M, Morris JK, Bestwick JP, Wald NJ. Combination therapy versus monotherapy in reducing blood pressure: meta-analysis on 11,000 participants from 42 trials. *Am J Med*. 2009 Mar; 122(3):290-300.
5. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr, Jones DW, Materson BJ, Oparil S, Wright JT Jr, Roccella EJ, Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. National Heart, Lung, and Blood Institute, National High Blood Pressure Education Program Coordinating Committee. Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *Hypertension*. 2003 Dec; 42(6):1206-52.
6. Biggs JT, Wylie LT, Ziegler VE. Validity of the Zung Self-rating Depression Scale. *Br J Psychiatry*. 1978 Apr; 132():381-5.
7. Ong KL, Cheung BM, Man YB, Lau CP, Lam KS. Prevalence, awareness, treatment, and control of hypertension among United States adults 1999-2004. *Hypertension*. 2007;49:69-75.
8. Bogner HR, Cary MS, Bruce ML, et al. The role of medical comorbidity in outcome of major depression in primary care: the PROSPECT study. *Am J Geriatr Psychiatry*. 2005;13:861-868.
9. Rubio AF, Arceo A, Lozano JJ, Vargas G, Rodríguez L, Ramos LM. Efficacy of a fixed-dose combination of trandolapril-verapamil in patients with stage-2 hypertension inadequately controlled by monotherapy. *Clin Drug Invest*. 2005;25:445-51.
10. Rabkin JG, Charles E, Kass F. Hypertension and DSM-III depression in psychiatric outpatients. *Am J Psychiatry*. 1983;140:1072-4.
11. Jokisalo E, Enlund H, Halonen P, Takala J, Kumpusalo E. Factors related to poor control of blood pressure with antihypertensive drug therapy. *Blood Press*. 2003;12:49-55.
12. Licht CM, de Geus EJ, Seldenrijk A, et al. Depression is associated with decreased blood pressure, but antidepressant use increases the risk for hypertension. *Hypertension*. 2009;53:631-
13. Di Matteo MR, Lepper HS, Croghan TW. Depression is a risk factor for noncompliance with medical treatment. *Arch Intern Med*. 2000;160:2101-7.