

A HOSPITAL-BASED STUDY IN IN MANAGEMENT OF HYPERTENSION IN POST-MENOPAUSAL WOMEN

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Abstract

Background: Hypertension is the most important clinical condition leading to morbidity and mortality in developing countries, and older people are the most rapidly growing population group. The study aims to assess hypertension status in females attaining menopause in proper settings, assess the target organ functions before and during treatment, and outline the various treatments. **Materials and Methods:** Eighty women aged 45 and above who attained menopause with hypertension were selected from medical wards between November 2005 to October 2006. Patients were examined for symptoms often attributed to hypertension, including renal and endocrinal disease, family history, dietary habits, addiction, and drug intake. Laboratory investigations to rule out secondary causes of hypertension followed up monthly for up to six months. **Results:** Post-menopausal women aged 45-50, 51-55, and 55 developed hypertension, with 53 attained menopause and 29 developing within five years. 4 presented with headache and giddiness. 36 (45%) had a family history of hypertension, 29 (36.25%) were treated by single drug therapy, 36 (45%) by a combination of two drugs, 72 (90%) had no target organ damage, and no cases were reported of nephropathy, CVA, or retinopathy. Women with stage I hypertension are aged 45-50, while post-menopausal women with stage II hypertension are aged 51-55. **Conclusion:** Post-menopausal hypertension is more common in older women, with headache and giddiness being the most prevalent symptoms. Family history and previous use of oral contraceptive pills are important factors to consider. Combination therapy is needed to reduce target organ damage.

INTRODUCTION

Hypertension is probably the most important clinical condition leading to morbidity and mortality in vast populations in developing countries. Older people are the most rapidly growing population group in the world. In 1991, a United States Census Bureau report on comparative indicators and future trends in global ageing revealed that older people above 60 constituted about 15% of the population. It has been forecast that the number of older people in developed and less developed countries will increase by 59% and 159%, respectively, between 1991 and 2020.^[1,2]

Analysis of the NHANES III (The Third National Health and Nutrition Examination Survey) data showed that ageing was associated with an increasing frequency of hypertension and an incoming severity. The data also showed that while men between the ages of 20-59 years have a higher incidence of hypertension than their female

counterparts, the reverse is true in the older population.^[3,4] Hypertension is more common among women 60 or older than men in the same age group. The gender difference is particularly striking among the very old; about 75% of women 80 or older have high blood pressure, compared with only 60% of men in the matching age group.^[5,6]

High blood pressure puts people at risk for complications like heart attacks and stroke. High blood pressure becomes more common as people age; after menopause, it becomes even more common in women than in men of the same age. One theory is that increased blood pressure in women after menopause is related to decreased estrogen levels and other hormones during this phase of life.^[7] Therefore, the study aims to assess hypertension status in females attaining menopause in proper settings, assess the target organ functions before and during treatment, and outline the various treatments.

MATERIALS AND METHODS

Women aged 45 years and above who attained menopause with hypertension were selected from medical wards, Obstetrics and Gynecology wards, and the outpatient department of Rajendra Institute of Medical Sciences, Ranchi, from November 2005 to October 2006.

Inclusion criteria: Patients with systolic blood pressure > 140 mm Hg and diastolic blood pressure above 90 mm Hg were included.

Exclusion criteria: Patients with hypertension before menopause and those with known target organ damage like CVA, diabetes, heart failure, myocardial infarction, renal disease and IHD were excluded.

After screening, 80 patients were selected, and informed consent was obtained. Patient complaints were noted in chronological order, and symptoms often attributed to hypertension, like headache, vertigo, insomnia, diminished vision, palpitation, chest pain, breathlessness, cough, syncope, tinnitus and urinary symptoms, were considered. Special emphasis was placed on the presence or absence of renal and endocrinal disease, family history of hypertension and diabetes mellitus, dietary habits, addiction like smoking and alcoholism and history of drug intake, oral contraceptives and corticosteroids. History of cerebrovascular accident, coronary heart disease and peripheral vascular disease were enquired about.

The patients were examined in detail, including blood pressure, height, weight, pulse, extremities, arcus senilis, neck, heart, lung, abdomen, optic fundus, and neurological assessment. Blood pressure was measured twice in a sitting position, and a third measurement was made if the difference between the previous two readings was more than 5 mm Hg.

Pulse and extremities were examined for delayed or absent femoral and peripheral arterial pulsations, bruits, and pedal oedema. The neck was examined for carotid bruits, raised JVP or an enlarged thyroid gland. The heart was examined for abnormalities in rate and rhythm, location of apex beat, fourth heart sound, and precordial murmurs. Lungs were examined for rales and rhonchi, abdomen for bruits, enlarged kidneys, masses, and abnormal aortic pulsation.

Laboratory investigations include urine examination, haemoglobin, fasting blood glucose, serum creatinine, potassium, sodium and total cholesterol, electrocardiogram, lipid profile, uric acid, echocardiogram and other tests to rule out secondary causes of hypertension. The patient treated purely outdoors or discharged early from the hospital was asked to report every month for up to six months for follow-up. All collected data of the study were represented as frequency and percentage.

RESULTS

Among the age of detection of hypertension in post-menopausal women, aged between 45-50, 21 patients. Aged between 51-55 years, 24 patients and after 55 years, 35 patients developed hypertension. Among the attainment of menopause between 45-50 years, 53 women attained menopause, comprised of 66.25% of patients, and after 50 years, 27 patients attained menopause (33.75%).

Fifty-one (63.75%) women developed hypertension within five years after attaining menopause, whereas 29 (36.25%) women developed hypertension after five years of attainment of menopause. Out of 80 women, 4 (38.9%) presented with headache and giddiness, 32 (40%) came for routine checkups, and 1 (1.25%) presented with other complaints.

Table 1: Distribution of patient's characteristics

		No of cases	Percentage
Age detection of hypertension	45-50	21	26.25
	51-55	24	30
	>55	35	43.75
Age of menopause	45-50	53	66.25
	>50	27	33.75
Hypertension detection after menopause	Within five years	51	63.75
	After five years	29	36.25
Presenting complaints	Headache and Giddiness	42	58.75
	Routine checkup	32	40
	Other complaints	1	1.25
Hormone or HRT	Past user	44	55
	Never used	36	45
	Current user	0	0
Hypertension	With family history	36	45
	Without family history	44	55
Drug regimen	Monotherapy (Diuretics/ACEIs)	29	36.25
	Combination (2 drugs)	36	45
	Combination (>2 drugs)	15	18.75
Target organ	No change	72	90
	Retinopathy	0	0
	Nephropathy	0	0
	Cardiovascular changes	8	10
	CVA	0	0

44 (55%) were past users of hormones, and 36 women were never on hormones. No woman in this series was currently using the hormone or HRT. 36 (45%) had a family history of hypertension, and 44 (55%) had no family history of hypertension.

29 (36.25%) were treated by single drug therapy, 36 (45%) by a combination of two drugs and 15 (18.75%) by a combination of more than two drugs. 72 (90%) had no target organ damage, 8 (10%) had developed cardiovascular changes, and no cases were reported of nephropathy, CVA, or retinopathy (Table 1).

Table 2: Distribution of women with stage I and II hypertension according to age

Age group	Stage I hypertension		Stage II hypertension	
	No of cases	Percentage	No of cases	Percentage
45-50	12	15	9	11.25
51-55	9	11.25	15	18.75
>55	11	13.75	24	30
Total	32	40	48	60

Out of 32 women with stage I hypertension, 12 (15%) were aged between 45 and 50 years, 9 (11.25%) were aged 51 to 55 years, and 11 (13.75%) were aged above 55 years. Out of 40 post-menopausal women with stage II hypertension, 9 (11.25%) were between ages 45 and 50 years, 15 (18.75%) between 51 to 55 years and 24 (30%) aged above 55 years (Table 2).

DISCUSSION

Out of 80 women majority of 59 (73.75%) belonged to the age group of 50 and above, and only 21 (26.25%) were in the younger age groups of 45 to 50 years. This confirms the impression of several authors that more and more women become hypertensive with advancing age, and recruitment into a hypertension state is almost linear. Data from Women's Health Initiative, 2000 made a similar observation, which showed older women were more hypertensive than younger groups, and Iles CS et al. (2000) showed similar observations.^[8,9] Das SK et al. (2005) showed maximum systolic and diastolic hypertension prevalence in women in the seventh decade.^[10]

The end of reproductive function takes away hormonal protection. An increasing number of ladies develop hypertension with the advent of menopause. This observation becomes important so that an intensive search for hypertension is a prerequisite for providing better health care. In the present study, 53 (66.25%) out of 80 ladies had their menopause between 45 to 50 years and only 27 (33.75%) had menopause beyond 50 years. Bharadwaj J A et al. (1983) and Chunki Piplai (1991) observed that the mean age of menopause is 45.03 years and 47 years, respectively.^[11,12] In general, females in the West have delayed menopause.

Most hypertension cases (63.75%) were detected within five years of menopause. This reflects the actual status and awareness about hypertension amongst the general mass and attending physicians. Mild headaches and giddiness constitute 47 (58.75%) cases. Almost 32 (40%) had no specific complaints and were picked up on routine health check-ups. Most authors agree that only severe or

reactive hypertension has specific presenting complaints. They should be looked into by more specific investigations like CT scans and endocrinal or renal function studies. This study had no current user of hormones; therefore, it suggests that in Indian patients, hormone use is negligible amongst post-menopausal females. However, 55% of patients had used oral contraceptives sometime in their reproductive period, and 45% had never used OCP's suggesting that using hormones as OCP's has become acceptable in females in their early reproductive years.

The present study noted that most patients, 44 (55%), had no reliable history of hypertension. Hunt SC et al. (1987) made a similar observation.¹³ In Indian conditions and more so in comparatively economically backward areas, obtaining a family history of hypertension is difficult. A majority (30%) of patients presented with stage II hypertension and belonged to the elderly age group beyond 55 years. Elderly patients >50 years constituted a majority of cases. It suggests their late detection of hypertension in menopausal ladies. The younger age group, 45 to 50 years, had fewer patients and lesser severity of hypertension. Stage I hypertension constitutes only 15% of the total patients. It goes on to suggest that with increasing age, there is an increase in several cases of hypertension as well as the severity of hypertension. JNC VII has suggested that beyond the age of 50, it is proper to target systolic blood pressure and bring it to a level of pre-hypertension. Whereas, in the younger population, i.e., below 50 years, one should target diastolic BP and bring it below 80 mm Hg. The present study is in agreement with Donald M et al. 1999, R Gupta et al. 2004 and Das SK et al. 2005.^[14,15,13] The (PEPI) post-menopausal estrogen/progestins intervention trials, 1995 reported no significant difference from placebo in SBP or DBP change in women treated with hormones.¹⁶ In the study of the University of Medicine, Birmingham, U.K. 2005 showed that HRT does not have any adverse effect on B.P. in hypertensive menopausal women.^[17]

Without any compelling reasons, most post-menopausal hypertensive patients responded to a combination of 2 drugs or more than two. It

constituted two third of cases (63.75%), and monotherapy in Diuretics/ACE inhibitors was found useful in 36.25% of cases. The choice of drugs depended on background diseases like diabetes, stroke, nephropathy, CAD, or heart failure. Uncomplicated ones generally responded favourably to low-dose Diuretics or ACE inhibitors. In Women Health Initiative (2000)8 study, monotherapy with Diuretics was strongly associated with good control of blood pressure than with B-blockers, calcium channel blockers or ACE inhibitors. In our study, patients were associated with target organ damage in only 10% of coronary artery disease cases when confirmed hypertension was detected.

CONCLUSION

In conclusion, the majority of women were above the age of 50 years, indicating the increased prevalence of hypertension after menopause. Early detection of hypertension within five years of menopause was more common, highlighting the importance of close monitoring during this period. Headache and giddiness were the most prevalent symptoms reported. Family history of hypertension and previous use of oral contraceptive pills were significant factors to consider in evaluating and treating the patients. Most patients fell under the stage II hypertension category, emphasizing the need for intensive management. Combination therapy was required for many patients, and only a small percentage exhibited target organ damage during the follow-up period. These findings underscore the importance of individualized treatment approaches, regular monitoring, and early intervention to mitigate the risks associated with post-menopausal hypertension and reduce the incidence of target organ damage.

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