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Research article

Increasing Incidence of Hypertension in Females

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Abstract

The incidence of hypertension in both males and females were studied in patients coming to the medical center of OGDCL Islamabad. Patients were selected between the ages of 45 and 60 years. Three blood pressure readings were recorded on their consecutive visits. WHO suggested grading for hypertension was used to classify the patients in three categories, Body mass index[BMI] was used to define obesity and overweight. Waist Hip Ratio[WHR] was measured to distinguish between upper and lower body type obesity. Total number of patients screened was 847. Males were 458 and females were 389. Hypertensive patients were 320 and among these 320 hypertensive patients 176 were women; while male were144. Females already on antihypertensive drugs were 80 and 192 males were already on antihypertensive drugs. 208 women were obese[BMI above 30] and 32 were overweight[BMI above 25]. 48 males were obese while 16 were overweight. In women the upper body type obesity was found in 192 patients; while in males upper body type obesity was in 32 patients. The cases excluded from the study were diabetics, patients with secondary hypertension, patients with proteinuria, polycystic renal disease, patients with IHD, stroke and MI.

Keywords: ***Obesity, overweight, Blood pressure, Females, BMI, Waist hip Ratio.***

Introduction

For the last two decades the number of hypertensive patients is increasing considerably and especially women coming to our OPD are detected with this health issue more frequently; therefore we decided to collect the data of these patients. Since we wanted to have a quick look into this problem we decided to conduct a cross sectional study. The data was collected from February 2016 to August 2016 in the medical center of OGDCL. Patients selected were between the ages of 45 and 60. Diabetics, secondary hypertensives, patients with proteinuria, polycystic renal disease, IHD and stroke were excluded.

Hypertension is a significant risk factor for CVD both in men and women.[1] Cardiovascular diseases are one of the major causes of deaths in women than any other disease.[13] The important risk factor for CVD is hypertension in women, but unfortunately due to lack of proper data and knowledge it remains underestimated and undiagnosed. Since many years there is a misperception that women are at a lower risk of CVD than men.[13] The incidences of CVD may be markedly reduce if women are treated for high blood pressure, but it has been observed that two thirds of treated hypertensive women have uncontrolled blood pressure.[13] There are some factors that are unique for women responsible for hypertension such as in premenopausal women contraceptives pills, pregnancy and in postmenopausal women with decrease levels of estrogen hormones there is rise of blood pressure, obesity is more common in women, that is an another factor for high blood pressure.[13] Total life expectancy is 4.9 times longer for normotensive women than hypertensive women at the age of 50 years.[2] The age specific mortality due to stroke with hypertension is somewhat less profound in women than men, while the age specific mortality due to CHD with hypertension is more extreme in women than men.[3] Chicago heart association study also concluded that hypertension has a stronger impact on CHD mortality in women than men.[4] Hypertension is particularly more complex in elderly people; while women are more affected than men.[9] It remains undiagnosed in general and particularly in women therefore it is undertreated.[9] An increase in15mm Hg of systolic BP is associated with 56% increase risk of CV diseases in women, while in men there is a risk of 32% increase of CV disease.[10]

Methods

It was a cross sectional study. Data was collected in the medical center of OGDCL. Closed end questionnaire was used to interview the patients. Responses of the patients were entered first in the questionnaire paper and then transferred to Excel. Calculation was done on Excel and final results were noted down. WHO guidelines for hypertension were used, given as follows:

Blood Pressure	Grade 1	Grade 2	Grade 3
SBP (mm Hg)	140-159	160-179	≥180
DBP (mm Hg)	90-99	100-109	≥110

Results

Data collected at the Medical Center of OGDCL. Patients selected were between the ages of 45 and 50.

S. No	Variables	Total	# of Males	#of Females	Male %	Female %
1.	Total # of patients Screened	847	458	389	54.07%	46%
1.	# of Hypertensive patients	320 37.8%	144	176	45%	55%
2.	Already Hypertensive	272	192	80	60%	25%
3.	Obese	256	48	208	15%	65%
4.	Over weight	48	16	32	5%	10%
5.	Upper body obesity	224	32	192	10%	60%
6.	Exercise	48	32	16	10%	5%
7.	Unhealthy dietary habits	288	208	80	65%	25%
8.	Grade 1 HTN	110	80	30	25%	9%
9.	Grade 2 HTN	140	50	90	16%	28%
10.	Grade 3 HTN	70	25	45	8%	14%

Total numbers of patients studied were 847. Females were 389 and males were 458. Overall there were 320 hypertensive patients. Surprisingly hypertensive females were 176 and males were 144. It was quite unexpected and shocking to see the exceeding number of females, because before this the picture for hypertensive and CHD patient was different, as more males were expected to have hypertension than females. Among the already diagnosed patients males were more than the females; this means that males were not taking the full doses of medicines whereas female cases were detected during the study for hypertension. This is an alarming situation and need special attention towards women.

Another astonishing factor that came in front is the obesity, as there were more female obese patients, this condition draw our attention towards obesity and make us to think about the obesity could be the likely cause of hypertension particularly in women. Upper body obesity is one of the factors responsible for CHD[14] and more females had upper body obesity than males. From the results it seems that our patients are not involved in physical activity because not only females but males are only 10% indulge in the practice of exercise. When we looked for unhealthy dietary habits about 65% males are habitual of unhealthy diet as compared to 25% females. Unhealthy diet in Pakistan includes eating only meat or dal, and bread; junk food, fast food, soft drinks; no vegetables or fruits. Mostly people are eating curry full of ghee and oil as they like greasy food which is bad for cardiovascular health.

If we look towards the grading of hypertension the greatest number is in grade 1 males. This might be because of the already diagnosed male cases who are taking incomplete doses of medicine; they are about 60%; and as they are treated they fall in grade 1 hypertension. Grade 2 hypertension is seen more in females that could be because of undiagnosed cases in females. Similarly Grade 3 hypertension is more (14%) in females than in males 8% and the difference could be due to less awareness of the condition in females.

Discussion

This study was done keeping in view the increasing incidence of hypertension in patients coming for checkup in the OPD of OGDCL Medical Center Islamabad. The total number of patients screened was 847. Age group selected was between 45 and 60; because we have seen during our practice the essential primary hypertension is mostly seen after the age of 40 years; although during the last two decades the trend has been changed to some extent and primary hypertension appear before the age of 40 years which is mostly diagnosed during the routine examination.[14] Our major concern was to see whether the pattern of high blood pressure is the same or differs in males and females between the ages of 45 and 60; it is the time when in women levels of estrogen start falling down and the defensive effect of estrogen is no more there to protect the patient from high blood pressure. It is suggested that estrogen in premenopausal women reduces the amount of LDL and keeps the levels of HDL high in the blood thus protects the blood vessels from developing the atherosclerotic plagues.[15]

During calculations we rounded up all the figures to make them comprehensible. While collecting the data we were very much careful about the cases such as sometimes patient are under stress and their blood pressure shoots up. In order to avoid such bias cases we repeat the reading after calming down the patient. In the OPD of OGDCL Medical center all the family members come for treatment including the parents; therefore we have daily more than 500 patients from 8.00am to 5.00pm. During this period quite a large number of patients visit the doctors and among those patients many are CVD sufferers. Since we noticed that many patients are coming to our OPD with high blood pressure especially the females we paid special attention to them and started recording their blood pressure.

The females coming to our OPD are mostly house wives, few are the working women among the working women are the teachers, office workers, professionals like engineers, geologists. Another important observation is that mostly the patients are obese and coming with the complaints of weakness, joint pains and headache. Among the already treated patients compliance is poor, although OGDCL provide them medicines free of cost. The reason for not taking the medicine regularly could be the fear of side effects of the medicines. This is the reason why blood pressure is not normal in many of the treated patients. The medicines we prescribe to our patients are the ACE inhibitors, calcium channel blockers, angiotensin receptor blocker and sometimes beta blockers.

The incidence of coronary heart disease is increasing and this could be due to change in life style. Females above 50 years are having silent myocardial infarction and sudden death.[16] Females are at risk of having fatal results and this is an alarming situation not only in Pakistan but throughout the world.[4] Hypertension is the major health issue not only for developing countries but also for developed countries.[17] Change in life style is the main reason. Both in developing countries and developed countries there is a significant change in lifestyle. In Pakistan people living in big cities are eating the same diet as in other developed countries and

the standard of living is equal to other develop countries. In villages of Pakistan women after the age of 40 years think that they have become old and the house hold work will be handled by their coming daughter in law. When they reach the age of 50 they rest in their beds and then develop different complaints such a weakness, joint pains, finally their muscles are weak due to immobility and unable to hold the joints. In this way they become totally dependent and at the same time become high risk patients for cardiovascular diseases. Another causative agent is stress; which is increasing because of great expectations and increase in struggle for the achievement of desirable goals.

Conclusion

Hypertension has become one of the major health issues for both men and women; but there is an increasing incidence of hypertension in women. Women are at high risk to die from hypertension related cardiovascular diseases, yet less attention are paid to hypertension related problems in women.[13] One of the factors responsible for increasing incidence of hypertension is change in life style that includes lack of exercise and unhealthy diet[16] and the other factor is stress.

In OGDCL medical center patients coming to OPD belong to different class but mostly they are financially sound; medical treatment is free but there is lack of awareness regarding their health. The most important solution to these problems is health education and counseling about their life style, and the importance of treatment. Obesity is becoming more common especially among women. We need to have health awareness programs for prevention and regular medical checkups to diagnose the cases in the early stages and then providing prompt treatment. Patients should be counseled regarding the importance of regular treatment to improve the compliance, and those at risk to change their life style for the prevention of disease.

References

[1] Stamler J, Stamler R, Neaton JD. Blood pressure, systolic and diastolic, and cardiovascular risks. US population data. Arch Intern Med 1993; 153: 598–615. | Article | PubMed | ISI | CAS |

[2] Franco OH, Peeters A, Bonneux L, de Laet C. Blood pressure in adulthood and life expectancy with cardiovascular disease in men and women: life course analysis. Hypertension 2005; 46: 280–286. | Article | PubMed | ISI | CAS |

[3] Lewington S, Clarke R, Qizilbash N, Peto R, Collins R. Age-specific relevance of usual blood pressure to vascular mortality: a meta-analysis of individual data for one million adults in 61 prospective studies. Lancet 2002; 360: 1903–1913. | Article | PubMed | ISI |

[4] Stamler J, Dyer AR, Shekelle RB, Neaton J, Stamler R. Relationship of baseline major risk factors to coronary and all-cause mortality, and to longevity: findings from long-term follow-up of Chicago cohorts. Cardiology 1993; 82: 191–222. | Article | PubMed | ISI | CAS|

[5] Lowe LP, Greenland P, Ruth KJ, Dyer AR, Stamler R, Stamler J. Impact of major cardiovascular disease risk factors, particularly in combination, on 22-year mortality in women and men. Arch Intern Med 1998; 158: 2007–2014. | Article | PubMed | ISI |

[6] Jonsdottir LS, Sigfusson N, Gudnason V, Sigvaldason H, Thorgeirsson G. Do lipids, blood pressure, diabetes, and smoking confer equal risk of myocardial infarction in women as in men? The Reykjavik Study. J Cardiovasc Risk 2002; 9: 67–76. | Article | PubMed | ISI |

[7] Vasan RS, Larson MG, Leip EP, Evans JC, O'Donnell CJ, Kannel WB, Levy D. Impact of high-normal blood pressure on the risk of cardiovascular disease. N Engl J Med 2001; 345: 1291–1297. | Article | PubMed | ISI | CAS |

[8] Conen D, Ridker PM, Buring JE, Glynn RJ. Risk of cardiovascular events among women with high normal blood pressure or blood pressure progression: prospective cohort study. BMJ 2007; 335: 432. | Article | PubMed | ISI |

[9] Aronow WS, Fleg JL, Pepine CJ, Artinian NT, Bakris G, Brown AS, Ferdinand KC, Ann Forciea M, Frishman WH, Jaigobin C, Kostis JB, American Society of Hypertension, American Society of Nephrology, Association of Black Cardiologists, and European Society of Hypertension. J Am Coll Cardiol 2011; 57: 2037–2114. | Article | PubMed | ISI |

[10] Bowman TS, Gaziano JM, Buring JE, Sesso HD. A prospective study of cigarette smoking and risk of incident hypertension in women. J Am Coll Cardiol 2007; 50: 2085–2092. | Article | PubMed | ISI | CAS |

[11] Forman JP, Stampfer MJ, Curhan GC. Diet and lifestyle risk factors associated with incident hypertension in women. JAMA 2009; 302: 401–411. | Article | PubMed | ISI | CAS |

[12] Lloyd-Jones DM, Evans JC, Levy D. Hypertension in adults across the age spectrum: current outcomes and control in the community. JAMA 2005; 294: 466–472. | Article | PubMed | ISI | CAS |

[13] Hypertension in women: latest findings and clinical implications - NCBIhttps://www.ncbi.nlm.nih.gov › NCBI › Literature › PubMed Central (PMC) by H Gudmundsdottir - 2012 - Cited by 7 - Related articles

[14] Prevalence of Hypertension and Obesity among Women Over Age 25 .. jpma.org.pk/full_article_text.php?article_ by H Akatsu - 1996

[15] Sex hormones and hypertension | Cardiovascular Research cardiovascres.oxfordjournals.org/content/53/3/688 by RK Dubey - 2002 - Cited by 373 - Related articles.

[16] Gender differences in coronary risk factors amongst hypertensive. www.gjms.com.pk/ojs/index.php/gjms/article/viewFile/581/553 by AR Arshad - 2013 - Related articles.

[17] Hypertension and its determinants among adults in high. - Nature www.nature.com/jhh/journal/v15/n2/pdf/1001131a.pdf?origin=publication_detail.