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Prevalence of Hypertension in Admitted Young Adult Patients From Local Ethnic Population in Tertiary Care Hospital

KEYWORDS: Hypertension, JNC VIII

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ABSTRACT *Background:Hypertension is related to manycomplications in nearly every organ. However, hypertension is often a neglected entity in young adults. This research is done to estimate the prevalence ofhypertension amongst young adultsinlocal ethnic population presenting to tertiary care hospital in Pune (India)*

Methods: This Cross-sectional, retrospective, single centre study was done in SKN Hospital Pune (India) in patients admitted between period Dec 2013 – Nov 2014. The total number of hypertensive patients & patients between age group 13–35 years were noted. The criteria for Hypertension was according to JNC VIII guidelines. The results were tabulated in Excel sheet and analysed.

Results:Amongst 5726 total admissions done during this period, 734 patients were found to be hypertensive. Of these hypertensive patients, there were 59 patients (12.4%) (p value <0.05) between age group 13–35 years with 34 Male and 25 Female patients.

Conclusion: Prevalence of hypertension is significant in the young adult population in this study. It implies the importance of preventive intervention(s) in young adults to avoid development of further complications. During routine clinical evaluations, hypertension should be ruled out in every young adult.

INTRODUCTION

Hypertension is responsible for 24% of coronary heart disease deaths and 57% of strokes in India. [1] Cardiovascular disorderswill reach as topmost cause for death by year 2020. In light of this knowledge, it is imperative to assess particularly young individuals for the commonest cause of CV disorder i.e. Hypertension. The simple fact that it can be easily detected with help of working BP apparatus; and practically available everywhere, does not require any sophisticated high level expertise, adds to convenience of patients to get screened for Hypertension. In previous JNC classification (JNC VII), patients with elevated blood pressure were classified into 'Prehypertension' and 'Hypertensive patients' categories. [2] However, the new JNC classification (JNC VIII) has done away with this and instead classifies patients according to their age and respective target Blood pressure. [3]

The present study was planned to investigate theprevalence of hypertension in young adults (Age 13 -35 years) selected from Inpatients admitted in Medicine Ward at Tertiary care hospital.

MATERIALS AND METHODS

This work is a retrospectivesingle centre studyconducted during period Dec 2013- Nov 2014 in the tertiary care hospital located in Pune. The Inpatient records of patients admitted to Medicine wards, were analysed for diagnosis of Hypertension.

Inclusion Criteria : The patients showing consistently elevated Blood pressure as per JNC VIII, were included in study and then categorised into age group between 13-35 yrs and above. Hypertension was defined as Systolic Blood pressure more than 140mmHg and / or Diastolic Blood pressure >90mmHg. [3]

Exclusion Criteria : Patients having (a) Psychiatric disorders; (b) Raised blood pressure only on admission, (c) Patients on long term steroid therapy, or on chronic NSAID treatment or on hormone replacement therapy or on oral contraceptive pills [4] were excluded from the study.

Data entry and statistical analysis were performed usingthe Microsoft Excel and Statistical Package of SocialSciences (SPSS) windows version 11.0 software. Chi- square test was applied to find out the results. A p value <0.05 was taken for statistical significance.

RESULTS

The following table (Table 1) shows month-wise statistical data of the patients admitted during period Dec 2013 – Nov 2014. The table also shows sexwisedemarcation in the age group (13-35 yrs).

Table 1 : Showing monthly Statistics of the study patients

Sr No	Month	Total admissions	Total patients with HTn	HTn patients with age 13-35yrs		
				Male	Female	Total
1	Dec 2013	543	103	3	2	5
2	Jan 2014	542	94	5	5	10
3	Feb 2014	497	99	4	0	4
4	March 2014	502	83	4	4	8
5	April 2014	483	71	4	0	4
6	May 2014	512	100	14	2	16
7	June 2014	421	35	0	2	2
8	July 2014	443	47	0	2	2
9	Aug 2014	463	31	0	1	1
10	Sep 2014	430	30	0	4	4
11	Oct 2014	436	21	0	2	2
12	Nov 2014	454	20	0	1	1
Grand Total		5726	734	34	25	59

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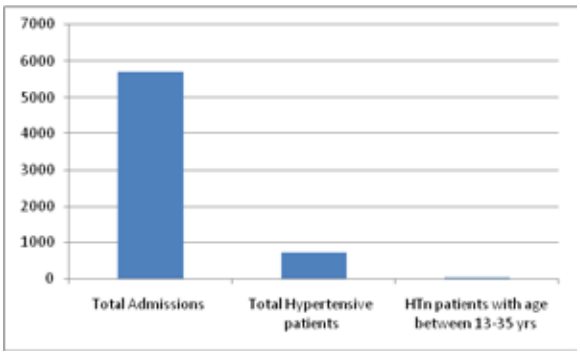

Fig.1 : Showing Number of Admissions and Hypertensive patients in the study

Among 5726admissions during the above mentioned period, 734 patients were diagnosed to have hypertension of which 59 patients (p value <0.05) were within the age group of 13-35 yrs. The proportion of hypertension was found to be higherin males (n=34) as compared to females (n=25). Among Non-hypertensive subjects, there were 854 subjects between the age group 13-35 yrs.

DISCUSSION

Hypertension is already recognised as a major risk factor for Cardiovascular disorders. During routine clinical evaluations, elderly populations are screened with due attention for hypertension. However, this entity is also prevalent in young population significantly. Many studies have proven that incidence of Hypertension in young population ranges from 2.75% to 33.9%.

Table 2 : Showing different studies conducted in young population in India depicting varying Prevalence of Hypertension

Sr No.	Author(s)	Journal, Volume, Page No.	Conclusion of the Study
1	Mohan B, Kumar N, Aslam N, *et al*	Indian Heart J. 2004 Jul-Aug;56(4):310-4.	Prevalence of Hypertension in Urban school going children in Ludhiana was 6.69%. [5]
2	NiravBuch, Jagdish P. Goyal, Nagendra Kumar, *et al*	J Cardiovasc Dis Res. 2011 Oct-Dec; 2(4): 228–232.	School going children aged between 6 to 13 years were selected for this study. Prevalence of hypertension was 6.48% in the study subjects.[6]
3	Kanade A, Deshpande S, Patil K, Rao S.	J Am Coll-Nutr. 2011 Jun;30(3):216-23.	At the young age of 24 years, 33.9% of men had either high systolic blood pressure. [7]
4	Sougat Ray, Bharati-Kulkarni and A. Sreenivas	Indian J Med Res. Aug 2011; 134(2): 162–167	Prevalence of prehypertension in young military adults :The overall prevalence of prehypertension was high (about 80%). [8]
5	Narinder Singh, Ravi Kumar Parihar*et al*	Indian J EndocrinolMetab. 2013 Jan-Feb; 17(1): 133–137.	A total of 1160 (658 boys and 502 girls) school going adolescents aged 10-13 years. The prevalence of Hypertension was 2.75%. [9]
6	Prashanth HL, Chandrashekhar SV, et al	Indian Journal of Public Health Research & Development, [S.l.], p. 168-172, Dec. 2013. ISSN 0976-5506.	991 adults of 20-39 yrs in Hebbal village (479) and an Urban ward (512) of Gulbarga city. The prevalence was 8.79% in urban and 7.30% in rural adults. It increased with age in both the populations. [10]

The high prevalence of prehypertensionhypertension (12.4%) in this study points to an increasing trend of detection in young adult population. Lifestyle changes, rapid urbanization, dietary changes and sedentary habits with less or no exercise arepossible factors that can be attributed to this trend. High prevalence ofhypertension observed in this study was similar to thatreported elsewhere in India, such as Gujrat, Punjab, Himachal Pradesh and Karnataka. [5-10]

Hypertension in young adults need to be given special attention as it may be due to possible identifiable and treatable secondary causes such as medications,kidney disease, adrenal gland disorder, hyperthyroidism etc.

Further, hypertension is frequently associated with other risk factors such as obesity and or hyperlipidemia; which also needs to be screened and treated. Hypertension may appear to be familial, butit is not possible to predict a definitive genetic pattern. [11,12]

Many of these patients are admitted with different primary diagnosis and hypertension happens to be detected incidentally. Therefore, in many of such patients, hypertension may not be diagnosed for a long period oftime.

Results from the current studyshould beconsidered with due attention to limitations.

The concomitant factors responsible for hypertension; whether it is essential or Secondary Hypertension, is not considered. Further, the sample of patients taken,can not be considered as representative of the population in general.

CONCLUSION

The detection of significant number of young adult population in this study, points towardsthe necessity of careful screening of such population for hypertension.

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REFERENCE

1. Gupta R. Trends in hypertension epidemiology in India. Journal ofHuman Hypertension 2004; 13:73–78 | 2. Chobanian AV, Bakris GL, Black HR et al. The Seventh Report of theJoint National Committee on Prevention, Detection, Evaluation, andTreatment of High Blood Pressure: the JNC 7 report. JAMA2003 ; 289 :2560–72. | 3. http://jama.jamanetwork.com/article.aspx?articleid=1791497 : Accessed on 10 Jan, 2015 | 4. Grossman E, Messerli FH. Drug-induced hypertension: an unappreciated cause of secondary hypertension.Am J Med. 2012 Jan;125(1):14-22. Doi: 10.1016/j.amjmed.2011.05.024. | 5. Mohan B, Kumar N, Aslam N, et al . Prevalence of sustained hypertension and obesity in urban and rural school going children in Ludhiana. Indian Heart J. 2004 Jul-Aug;56(4):310-314. | 6. NiravBuch, Jagdish P. Goyal, Nagendra Kumar, et al. Prevalence of hypertension in school going children of Surat city, Western India. J Cardiovasc Dis Res. 2011 Oct-Dec; 2(4): 228–232. | 7. Kanade A, Deshpande S, Patil K, Rao S. Prevalence of high blood pressure among young rural adults in relation to height in childhood and adult body mass index.J Am CollNutr. 2011 Jun;30(3):216-23. | 8. Sougat Ray, BharatiKulkarni and A. Sreenivas. Prevalence of prehypertension in young military adults & its association with overweight & dyslipidaemia. Indian J Med Res. Aug 2011; 134(2): 162–167 | 9. Narinder Singh, Ravi Kumar Parihar et al. Prevalence of metabolic syndrome in adolescents aged 10-13 years in Jammu, J and K.Indian J EndocrinolMetab. 2013 Jan-Feb; 17(1): 133–137. | 10. Prashanth HL, Chandrashekhar SV, et al. Hypertension in Young Adults - an Urban and Rural Comparative Study ; Indian Journal of Public Health Research & Development, p. 168-172, Dec. 2013 (Accessed on 10 Jan 2015 : http://www.i-scholar.in/index.php/ijphrd/article/view/43325) | 11. Ferguson TS, Younger N, Tulloch-Reid MK, et al. Progression fromprehypertension to hypertension in a Jamaican cohort: incidenthypertension and its predictors. West Indian Med J. 2010;59:486-93. | 12. Arima H, Murakami Y, Lam TH, et al. Effects of prehypertensionand hypertension subtype on cardiovascular disease in the Asia-PacificRegion. Hypertension. 2012; 59:1113-23. |