A Comparative Study of Hypertension with and Without Metabolic Syndrome

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ABSTRACT

Background: hypertension is prevalent in all the populations of world and is a serious risk factor for the patients . in many patients it is associated with metabolic syndrome which nearly doubles the risk . so we should investigate every patient with hypertension for with or without metabolic syndrome so as to save from its complications

Methods: Sixty patients males and females coming in out patient door of Pak Red Crescent Medical College Dina Nath who on history physical examination and investigations were diagnosed as essential hypertension were investigated for further differentiation into with or without metabolic syndromes.

Results: 21/60 patients with hypertension were found suffering from metabolic syndromes while 39/60 were not having metabolic syndrome. So a large number of patients were suffering from metabolic syndromes in our rural young population **Conclusion:** the prevalence of metabolic syndromes should be evaluated in all hypertension patients and all the factors of metabolic syndrome should be treated as well

Keywords: Metabolic syndrome, essential hypertension, dyslipidemia

INTRODUCTION

Hypertension: Is serious risk factor in world population^{1,2}. In upto 95% cases etiology of hypertension is unknown. In only 5-10 percent cases underlying disorders are known. Its association with metabolic syndrome /insulin resistance is described in many studies but it is also an independent risk factor^{3,4}. Metabolic syndrome is a separate entity which is associated with at least 3 of the five associated abnormalities . the patients with this condition have basic abnormalities in insulin sensitivity and in certain studies there is high levels of insulin / insulin growth factors. So there is increased sympathetic activity and endothelial dysfunction which may be responsible for hypertension^{3,5}. Insulin resistance also leads to hypertriglyceridemia and low HDL levels and isa risk factor of microvascular and macrovascular changes in diabetes mellitus⁶ .Essential hypertension is however independendly present without other features of insulin resistance7,8, however presence of metabolic syndrome in hypertension increases the risk to double than that without metabolic syndrome9,10 so a distinction of essential hypertension with and without metabolic syndrome /insulin resistance is important as we should have to adopt separate approaches in its management-because of some different pathophysiology in those groups . In the present study we will try to find out the comparative prevalence of of hypertension with and without metabolic syndrome.

MATERIALS AND METHODS

The patients coming in outdoor with minor ailments were physically examined and those with hypertension as per JNC 8 criteria¹¹ and not suffering from any secondary cause on history , clinical examination and and on investigations according to a a performa were included in the study .

`The patients weight height taken and their abdominal circumferences were noted .

Finally 60 selected patients with essential hypertension were investigated for fasting lipid profile and blood sugar with 10 to 12 hours fasting were included in study group .

So that five factors of metabolic syndrome were noted in a formulated form so as to differentiate the patients with hypertension into those suffering from metabolic syndromes are to be separated and a comparison to be made with or without metabolic syndrome.

RESULTS

Data of patients were analyzed in certain table forms in following. M_male f_female t, total. The number of patients with combined abnormalities FBS , Fasting blood sugar, TG, triglyceride, HDLC, high density lipoprotein cholesterol.

According to above results hypertension patients fulfilling the criteria of metabolic syndrome are 21/60 ie 35% of cases while those without metabolic syndrome were 39/60 i.e 65 % of cases.

Table 1: The hyprtension patients with some determinant factors

Parameters In Hypertension Cases	Males (n=35	Females (25)	Total (60)	prevalence
Abdomen circumference>102cm In males and >88 cm in females	18	15	33	55%
Fasting HDL –C <40mg in males . & <50 mg in females	12	09	21	35%
High fbs >100mg/dl	12	09	21	35%
fasting triglyceride>150 mg/dl	19	14	33	55%

Table 2: Patients With Prevalence Of Combined Abnormalities ; In The Table The Patients With Combined Different Abnormalities

Htn + central obese	M,18	F,15	T,33	55%
Htn +central obese +>fbs	M,9	F,8	T,17	27.5%
Htn+ central obese+ >tg	M,12	F, 8	T,20	32.5%
Htn + central obese + <hdlc< td=""><td>M,9</td><td>F,8</td><td>T,17</td><td>27.5%</td></hdlc<>	M,9	F,8	T,17	27.5%

Table 3: Patients With And Without Metabolic Syndrome As Per Adult Treatment Panel Criteria With 3/5 + Ve Factors

	Differential diagnosis of number of cases for metabolic syndrome	Malee 35	Percentage	Females No (25)	percentage	Total No(60	Percentage
	Metabolic syndrome +ve	12	35%	09	35.5%	21	35%
Γ	Metabolic syndrome -ve	23	65%	16	64.5%	39	65%

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DISCUSSION

As metabolic syndrome is a result of combination of five different factors all the hypertension patients under study are not falling in category of metabolic syndrome as in ATP3 criteria. The patients may have one or more components of metabolic syndrome but they don't fall in metabolic syndrome criteria . in international and pakistan studies metabolic syndromes has been found in hypertension cases ^{3,13}. in many international and pakistan studies hypertension and dyslipidemia is associated and are in some studies the patients were non obese and nondiabetc.^{12,14} similiarly in some studies hypertension with obesity were noted without falling in criteria of metabolic syndrome^{15,16}. similiarly metabolic syndrome may be present in non obese ¹⁷.

CONCLUSIONS

The patients with hypertension coming in our practice must be evaluated for presence of metabolic syndrome or any other associated factors as they are comorbid and their treatment is necessary along with treatment of hypertension ¹⁸.

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