



EVALUATION OF SERUM URIC ACID LEVEL IN SUBJECTS RECENTLY DIAGNOSED WITH SYSTEMIC HYPERTENSION.

Physiology

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KEYWORDS

Hyperuricemia, Hypertension

I. INTRODUCTION

Systemic hypertension is a very common disorder in both sex after the age of thirty. Sometimes patients remain asymptomatic for a long time before they come to visit doctor for the first time. There has been a causal relationship between systemic hypertension and hyperuricemia. Many previous studies^(1,2,3) showed that hypertension may lead to hyperuricemia and vice versa. Hypertension may result decrease in renal blood flow and that may lead to hyperuricemic state. It also remains possible that uric acid being is a marker for xanthine oxidase-associated oxidants and that the latter could be driving the hypertensive response. However, the weight of the evidence suggests that uric acid is a true modifying and possibly causal factor for human primary hypertension. We designed a study to evaluate serum uric acid level in patients newly diagnosed with systemic hypertension. Our subjects were never on any medications of hypertension as well as hyperuricemia.

II. MATERIALS AND METHODS

Patient's evaluation: We selected 50 patients (Male 25, Female 25) from General OPD of Malda Medical College who were recently diagnosed with systemic hypertension. None of them were on hypertensive therapy. We advised serum uric acid level along with other baseline investigations like lipid profile, serum creatinine, thyroid profile and fasting blood sugar level. Patients with diabetes and altered serum creatinine level were excluded from the study. All the biochemical parameters were assessed in the Biochemistry department of Malda Medical College.

STATISTICAL ANALYSIS:

We compared serum uric acid level with both systolic as well as diastolic blood pressure by independent t-test and Pearson's correlation test. But we did not find any statistical significance between hyperuricemia and hypertension in our newly diagnosed group of hypertensive subjects.

III. RESULTS

In our subjects with newly diagnosed hypertension mean age was (49.48 $\pm$ 12.45, F) and (49.08 $\pm$ 13.341, M). All of the subjects had either systolic or diastolic or combined hypertension. Among them 46% had hyperuricemia and the rest had normal uric acid level. We did not found any significant positive correlation between hyperuricemia and hypertension among our subjects. We did analysis between our both male and female individuals but did not get any statistical significance.

Table: 1

SEX	Frequency	Percent
F	25	50
M	25	50
Total	50	100

Table: 2

Hyperuricemia	Frequency	Percent
No	27	54
Yes	23	46
Total	50	100

Table: 3

	Female		Male			
	Mean	Std. Deviation	Mean	Std. Deviation	t	Sig. (2-tailed)
AGE	49.48	12.45	49.08	13.341	0.11	0.913
SBP	162.68	14.534	167	24.983	-0.747	0.459
DBP	91.08	13.555	99.16	12.409	-2.198	0.033
URICACID	5.589	1.409	6.059	1.951	-0.976	0.334

Table: 4

	Hyperuricemia					
	No		Yes			
	Mean	Std. Deviation	Mean	Std. Deviation	t	Sig. (2-tailed)
AGE	49.81	13.339	48.65	12.342	0.318	0.752
SBP	165.48	19.659	164.09	21.543	0.239	0.812
DBP	93.63	14.936	96.87	11.659	-0.844	0.403

Table: 5

Correlations					
		AGE	SBP	DBP	URICACID
AGE	Pearson Correlation	1	0.216	-0.127	-0.159
	Sig. (2-tailed)	0.132	0.378	0.27	
SBP	Pearson Correlation	0.216	1	.491**	-0.027
	Sig. (2-tailed)	0.132	0	0.852	
DBP	Pearson Correlation	-0.127	.491**	1	0.136
	Sig. (2-tailed)	0.378	0		0.345
URICACID	Pearson Correlation	-0.159	-0.027	0.136	1
	Sig. (2-tailed)	0.27	0.852	0.345	

** Correlation is significant at the 0.01 level (2-tailed).

IV. DISCUSSION

In many previous studies hyperuricemia showed positive correlation with hypertension. But our study failed to show such significance. This may be due to ethnicity or due to a very small scale study population of only 50 individuals. In the follow up study we need to take a larger sample covering many regions before we can conclude about this controversial issue.

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