ORIGINAL RESEARCH PAPER

General Medicine

KEY WORDS:

PREVALANCE AND PROGNOSTIC SIGNIFICANCE OF MICROALBUMINURIA IN NON-DIABETIC ACUTE ISCHAEMIC STROKE

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INTRODUCTION

Microalbuminuria is thought to be a marker of abnormal vascular permeability and its presence considered as kidney's notice for markedly enhanced cerebrovascular risk. It is considered as indicator of increased mortality in diabetes mellitus, hypertension and acute myocardial infarction.The prevalence, progression and regression of Microalbuminuria in various disease processes was repeatedly investigated in several trials and have confirmed its significance. This relationship appears graded, with higher levels of Microalbuminuria being independently associated with a greater magnitude of vascular risk. Furthermore, the presence of Microalbuminuria appears to independently predict poorer clinical outcomes following acute stroke. Screening for Microalbuminuria is relatively easy and inexpensive and could be effective in identifying stroke patients at risk for unfavorable outcomes.

AIMS AND OBJECTIVES

To estimate the prevalence of Microalbuminuria in Non–Diabetic Acute Ischemic Stroke And To assess the prognostic significance of Microalbuminuria in these cases with reference to Glasgow coma scale of the patient.

METHOD AND MATERIAL

This study was done in the inpatient setting of Department of Internal Medicine, J.L.N. Medical College and Hospital, Ajmer. The patient profile included both males and females aged from 25-90 years admitted within 48 hours of onset of acute ischemic stroke as confirmed by computed Tomography/MRI. The Alubmin Excretion Rate was assessed in a 24 hours Urine collection. Urine Albumin Excretion was done by the IMMUNOTURBIDIMETRIC METHOD. It was expressed as mg/day. The severity of the neurological deficit was assessed according to the Glasgow Coma Scale.

The study group includes 48 patients. In the study, we primarily grouped the patient into Group A i.e. Patients with Microalbuminuria and Group B i.e. Patients without Microalbuminuria i.e. Normalbuminuric patients. This was to assess the prevalence of Microalbuminuria in Acute Ischemic Stroke.

These two study groups were then compared with reference to their Age, Gender, Glasgow Coma Scale (GCS), Electrocardiography (ECG) evidence of Left ventricular Hypertrophy (LVH), Lipid profile, Systolic and Diastolic Blood Pressure.

Prevalence of Microalbuminuria among study population

Microalbuminuria	Cases	%
Present	23	47%
Absent	25	53%
Total	**48**	

Microalbuminuria was found in 23 (47%) patients with recent ischemic stroke.

Glasgow Coma Scale (GCS) in Patients with MicroAl buminuria (MA) and without MicroAlbuminuria (MA)

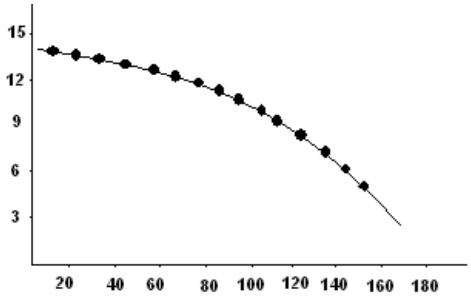
	GROUP A	GROUP B
	WITH MA	WITHOUT MA
	GCS	GCS
Mean	8.30 ± 2.62	11.76 ± 1.76
Median	9	12
25th Percentile	6	11
75th Percentile	10	13
	P < 0.001 (Significant)	

The mean GCS in patients in Group A was 8.30 ± 2.62.
The mean GCS in patients in Group B was 11.76 ± 1.76.
The mean GCS of patients in Group A was significantly lower than that of patients in Group B.

Correlation coefficients of Age, UAE and GCS in Patients with MA

Category	UAE	GCS
AGE	A = - .1707 p = .436	A = .0366 p = .860
UAE	-- --	A = - .6895 p = .000*(Significant)

Graph showing the relationship between GCS and UAE



There was significant Correlation between Urine Albumin Excretion and GCS in Group A while no such correlation was found in Group B.

SUMMARY

48 patients who presented with acute ischaemic stroke were studied (considering exclusion criterias). The demographic, clinical and laboratory data of these patients were recorded. In the study, patient were grouped into Group A i.e. patient with Microalbu minuria and Group B i.e. patient without Microalb uminuria. These two study group were than compared with reference to age, gender, Glasgow coma scale, electrocardiogram evidence of left ventricular hypertrophy, lipid profile, systolic and diastolic blood pressure.

There was no significant correlation between gender, lipid profile, systolic and diastolic blood pressure with Microalbuminuria.

Acute ischemic stroke patient with Microalbuminuria were

however significantly older than Normalbuminurics but there was no significant graded correlation of Age with urine albumin excretion in inter-group and intra–group studies.

Microalbuminuria was present in 47% acute ischemic stroke patients studied.

Urine albumin excretion had strong correlation with the Glasgow Coma Scale of the patient in Acute Ischemic Stroke. Those with a lower Glasgow Coma Scale had a higher rate of urine albumin excretion and vice versa.

Those with Electrocardiogram evidence of Left Ventricular Hypertrophy had significantly higher rate of urine albumin excretion.

CONCLUSION

Various clinical studies have documented microalbuminuria as a risk factor for ischemic stroke. This study found a 47% prevalence of microalbuminuria in acute ischemic stroke after other factors which may confound it were excluded as far as possible. There was a significant association and correlation of microalbuminuria with the severity of the neurologic deficit so that it may be useful as a prognostic marker.

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