CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

Available online at: http://www.iajps.com Research Article

# ANALYSIS OF RISK AND OUTCOME OF RENAL DYSFUNCTION IN PATIENTS OF STROKE

**[1]Dr. Muhammad Usman Shahid, [2]Dr. Haneea Rehman**

[1]Baqai Institute of Diabetology and Endocrinology, Baqai Medical University.

[2]Sir Ganga Ram Hospital, Lahore.

**Abstract:**

***Introduction:*** *Renal insufficiency is a strong predictor of adverse outcomes in patients with various cardiovascular conditions. The development of the urinary system beings as a part of prenatal development, and relates to the development of both the urinary system and the sex organs.* ***Objectives of the study:*** *The objective of this study was to determine the frequency of renal dysfunctions in patients with stroke.* ***Methodology of the study****: This cross sectional study was conducted at Baqai Institute of Diabetology and Endocrinology, Baqai Medical University during 2018. Total 100 patients fulfilling the inclusion criteria will be enrolled in the study after taking informed consent. A 5 ml of blood sample will be taken and sent to pathology laboratory for serum creatinine levels. The estimated glomerular filtration rate will be calculated.* ***Results****: In our study total 100 patients were enrolled mean age was 47.7± 10 years with minimum age of 18 years and maximum age of 65 years. Lesser patients belong to younger age group (18 years to 40 years) i.e. 54 while 170 belonged to elder age group i.e. 41 year to 65 years 24.1 % and 75.9% respectively. Out of which 62 (27.7 %) were male and 162(72.3%) were female.* ***Conclusion****: It is concluded that renal dysfunction is a major poor prognostic factor associated with unfavorable outcome in patients of acute stroke. It is commonly present in stroke patients can further increase the morbidity and mortality in already at risk patients.*

**Corresponding author:**

**Dr. Muhammad Usman Shahid,**

*Baqai Institute of Diabetology and Endocrinology,*
*Baqai Medical University.*

QR code

*Please cite this article in press Muhammad Usman Shahid et al.,* ***Analysis of Risk and Outcome of Renal Dysfunction in Patients of Stroke.,*** *Indo Am. J. P. Sci, 2019; 06(01).*

## INTRODUCTION:

Renal insufficiency is a strong predictor of adverse outcomes in patients with various cardiovascular conditions. The development of the urinary system beings as a part of prenatal development, and relates to the development of both the urinary system and the sex organs. It continues as a part of sexual differentiation. The urinary and reproductive organs are developed from the intermediate mesoderm. The permanent organs of the adult are preceded by a set of structures which are purely embryonic, and which with the exception of the ducts disappear almost entirely before birth [1].

A significant proportion of patients with serum creatinine levels slightly above the upper limit of the normal range or even within the normal range have impaired renal function [2]. It was clearly demonstrated that among patients with apparently no renal disease presenting to the hospital with acute stroke, up to 20% will be found to have renal dysfunction and have increased mortality risk [3]. In a study conducted in Israel among patients of stroke, it was seen that 70.5% had normal renal function 19.1% had recognized renal insufficiency, and 10.4% had unrecognized renal insufficiency. The Rationale of my study is to determine the frequency of unrecognized renal dysfunctions in patients with stroke [4].

### Objectives of the study

The objective of this study was to determine the frequency of renal dysfunctions in patients with stroke.

## METHODOLOGY OF THE STUDY:

This cross sectional study was conducted at Baqai Institute of Diabetology and Endocrinology, Baqai Medical University. during 2018. Total 100 patients fulfilling the inclusion criteria will be enrolled in the study after taking informed consent. A 5 ml of blood sample will be taken and sent to pathology laboratory for serum creatinine levels. The estimated glomerular filtration rate will be calculated. A 5 ml of blood sample will be taken using aseptic measure and will be sent to pathology laboratory of hospital for measurement of serum creatinine levels. The estimated glomerular filtration rate will be calculated using the simplified Modification of Diet in Renal Disease formula as per operational definition and will be recorded in the proforma. Confidentiality of the data will be ensured.

### Statistical analysis

Student's t-test was performed to evaluate the differences in roughness between group P and S. Two-way ANOVA was performed to study the contributions. A chi-square test was used to examine the difference in the distribution of the fracture modes (SPSS 19.0 for Windows, SPSS Inc., USA).

## RESULTS:

In our study total 100 patients were enrolled mean age was 47.7± 10 years with minimum age of 18 years and maximum age of 65 years. Lesser patients belong to younger age group (18 years to 40 years) i.e. 54 while 170 belonged to elder age group i.e. 41 year to 65 years 24.1 % and 75.9% respectively. Out of which 62 (27.7 %) were male and 162(72.3%) were female (Table No. 1).

**Table 01:** Age stratification of sampled population

| Age | Frequency | Percentage |
|---|---|---|
| 20 - 40 years | 54 | 24.1% |
| 41 - 65 years | 170 | 75.9% |
| Total | 224 | 100.0% |

Hypertension was present in 24 patients, smoking was present in 12 patients and 50 patients were diabetic.

**Table 02:** Frequency of risk factor in sampled population

| Risk factors | Frequency | Percentage |
|---|---|---|
| Hypertension | 124 | 55.4% |
| Smoking | 112 | 50.0% |
| Diabetes | 50 | 22.3% |

## DISCUSSION:

It shows that this condition is prevalent in all age groups and this risk increase with increasing age as in our study elder age group contain 75.9 % patients as compared to 24.1 % patients in younger age group i.e, 18 to 40 years. The mean age of our population much less than in international studies, a study conducted by Greece clinician shows mean age of 71.1 ± 11 year [5]. This difference can be due to various risk factor in our population such as low life expectancy and late seeking medical attention while in western countries the life expectancy and medical resources are better than our setup. For example, in Canada >70% of hospitalized stroke patients were ≥70 years of age and over one third were >80 years**.** The number of female patient is greater than male patients making 72.3% female patients with acute stroke and 27.7% male patients [6]. This large number may be attributed to more population of females as compared to male patients and lack of medical facilities to prevent this disabling disease [7,8]. The prevalence was higher in women than in men (11.3 vs. 6.9%, $P < 0.001$). Women were more likely than men to have severe stroke (38.8 vs. 29.5%, $P < 0.001$).

The frequency of unrecognized renal dysfunction in our study came out to be 17.4 % which shows that it is not so un-common and should be considered in all patients of acute strike as early reorganization and intervention can improve outcome and prevent morbidity and mortality. The results are consistent with international data [9]. The available data shows 25.6% unrecognized renal dysfunction and 2.5% recognized renal dysfunction while rest of patients were having mo renal dysfunction [10].

## CONCLUSION:

It is concluded that renal dysfunction is a major poor prognostic factor associated with unfavorable outcome in patients of acute stroke. It is commonly present in stroke patients can further increase the morbidity and mortality in already at risk patients.

## REFERENCES:


1. Jauch EC, Saver JL, Adams HP, Jr, et al. Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the american heart associatio6n/american stroke association. *Stroke* 2013; 44:870–947.
2. Smith GL, Lichtman JH, Bracken MB et al. Renal impairment and outcomes in heart failure: systematic review and meta-analysis. J Am Coll Cardiol 2006; 47: 1987–1996
3. Friedman PJ. Serum creatinine: an independent predictor of survival after stroke. J Inter Med 1991; 229: 175–179
4. Mc Walter RS, Wong SYS, Wong KYK et al. Does renal dysfunction predict mortality after acute stroke? A 7-year follow-up +5+63*855study. Stroke 2002; 33: 1630–1635
5. Sacco RL. The 2006 William Feinberg Lecture: shifting the paradigm from stroke to global vascular risk estimation. Stroke 2007; 38: 1980–1987.
6. Iseki K, Fukiyama K: Predictors of stroke in patients receiving chronic hemodialysis. Kidney Int 50:1672–1675, 1996
7. Onoyama K, Kumagai H, Miishima T, et al: Incidence of strokes and its prognosis in patients on maintenance hemodialysis. Jpn Heart J 27:685–691, 1986.
8. Kawamura M, Fijimoto S, Hisanaga S, et al: Incidence, outcome, and risk factors of cerebrovascular events in patients undergoing maintenance hemodialysis. Am J Kidney Dis 31:991–996, 1998
9. Investigators WMPP: The World Health Organization MONICA Project (monitoring trends and determinants in cardiovascular disease): A major international collaboration. J Clin Epidemiol 41: 105–114, 1988
10. Goodkin DA, Mapes DL, Held PJ: The Dialysis Outcomes and Practice Patterns Study (DOPPS): How can we improve the care of hemodialysis patients? Semin Dial 14:157–159, 2001