

Frequency of Medical Complications in Hospitalized Stroke Patients at Bahawal Victoria Hospital, Bahawalpur

Saleem Akhtar, Raheel Khan, Sohail Tariq, Shabana Mehar and Sadaf Shafiq

ABSTRACT

Objective: To find out the frequency and nature of medical complications in hospitalized patients admitted to Bahawal Victoria Hospital, Bahawalpur with acute stroke.

Study Design: Cross-sectional Study

Place and Duration of Study: This study was conducted at the Department of Medicine, Bahawal Victoria Hospital & Quaid-e-Azam Medical College, Bahawalpur from July 2015 to September 2015.

Materials and Methods: 98 patients who fulfill the inclusion criteria and gave informed consent were enlisted in the study. These patients were regularly observed for any post stroke medical complications after the clinical evaluation and CT scan plain brain until they were discharged from the hospital.

Results: The mean age of the patients was 57.15 ± 15.42 . Most of the patients suffering from stroke were female (68.4 %) and belonged from rural population (73.5 %). Most of them were suffering from ischemic stroke (66.3 %). Specified medical complications included: Recurrent Stroke (29.6 %), Epileptic seizures (12.2 %), Urinary tract infections (30.6 %), respiratory tract infections (31.6 %), bed sores (15.3 %), shoulder pain (10.2 %), depression (53.1 %), falls (13.3 %), Venous Thromboembolism (7.1 %). A total of 14 patients (14.28 %) died during the hospital stay due to severe disease.

Conclusion: This study established the post stroke medical complications mainly the pressure sores, pain and infection. As a complication, depression was also identified among the stroke patients. The disability and mortality can be minimized by early identification and treatment of these likely avertable complications.

Key Words: Stroke, Medical Complications

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INTRODUCTION

Stroke is one of the important causes of death and physical disability and social dependence throughout the world. The patients who are suffering from this devastating condition are at risk of developing many complications during hospital stay. These complications delay rehabilitation and may increase the risk of death among the patients. It is important to recognize the frequencies of these complications because most of them are treatable and preventable.

The incidence of stroke is rising in Pakistan to due increase of incidence of risk factors of stroke among Pakistani population which include Diabetes Mellitus, Hypertension, Dyslipidemia and Smoking.¹ Every year 3.5 million humans suffer from stroke worldwide.²

The objective of this study was to find out the frequency and nature of medical complications in hospitalized patients admitted to Bahawal Victoria Hospital, Bahawalpur with acute stroke. Bahawal Victoria Hospital is a 1610 bedded teaching hospital situated at District Bahawalpur of Southern Punjab.

MATERIALS AND METHODS

The patients who were admitted to the hospital had presented to us with acute stroke after the onset of disease within 5 days. The stroke was diagnosed on the basis of clinical features and Computerized tomography of brain. Patients who were excluded included those with hypertension, metabolic encephalopathy meningitis, encephalitis causing neurological deficit and brain tumors. This Cross Sectional study was conducted at Department of Medicine, Bahawal Victoria Hospital Bahawalpur from July 2015 to September 2015. The patients were initially assessed for their degree of neuro deficit, demographic details and functional status after complete history and physical examination. The symptomatic complications such as pressure sores, chest and urinary tract infections, recurrent stroke, epileptic seizures, venous thromboembolism and mobility related injuries.

The patients were daily assessed for any development of complications till their discharge from the hospital or

Department of Medicine, Bahawal Victoria Hospital & Quaid-e-Azam Medical College, Bahawalpur.

Correspondence: Dr. Raheel Khan,
Resident of Internal Medicine, Department of Medicine,
Bahawal Victoria Hospital & Quaid-e-Azam Medical
College, Bahawalpur.
Contact No: 0300-7803638
Email: x_raheel@yahoo.com

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death. The complications were confirmed after thorough review of baseline and relevant investigations. Designed questionnaires were filled with the relevant data of these patients and then statistically analyzed by using SPSS of version 22.0.

RESULTS

A total of 98 patients fulfilled the inclusion criteria during the study period. The mean age of patients was 57.15 ± 15.42 years. Most of the patients suffering from stroke were female (68.4 %) and belonged from rural population (73.5 %). Most of them were suffering from ischemic stroke (66.3 %). The Demographic details are described in table no. 1.

The observed frequencies of medical complications during hospital stay are shown in Figure no. 1. Most common complication among the patients was depression (53.1 %).

A total of 14 patients (14.28 %) died during the hospital stay due to severe disease. The frequency of complications was compared among the different age groups and were more among the age group of patients having age more than 60 years. However only the respiratory tract infections frequency (42.0 %) was found to be significant in the patients having the age more than 60 years ($p = \leq 0.05$). When the complications frequency was compared in gender groups it was observed that frequency of recurrent stroke was found to be statistically significant ($p = \leq 0.05$) more in females as compared to males (29.9 %).

Table No. 1: Demographic details of patients

Gender	Male	n (98)	%
		31	31.6
	Female	67	68.4
Age (years)	Mean =	57.15	
	St. Deviation =	15.42	
	Minimum =	16	
	Maximum =	90	
Residence	Rural	n (98)	%
		73	74.2
	Urban	25	25.8
Type of Stroke		n (98)	%
	Ischemic	65	66.3
	Hemorrhagic	33	33.7

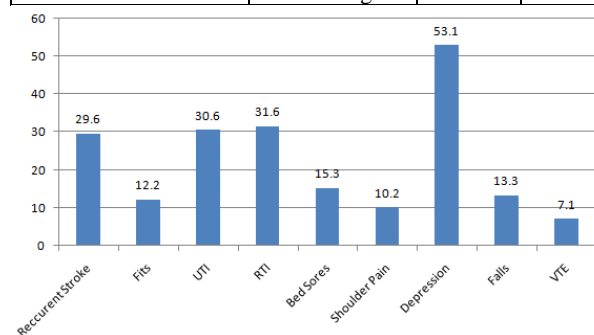


Figure No.1: Frequency Of Complications - n= 98

DISCUSSION

Current study determined the frequency of complication that developed during the hospital stay of the patients after suffering from stroke. The study analysis showed that post-stroke depression was the commonest complication among the patients which is also found in variable proportions in different studies.^{3, 4} The frequency of both urinary tract and respiratory tract infections was greater in the study as compared to different other studies^{5, 6, 7}. The incidence of infections can be reduced by admitting the patients to specialized stroke centers.⁸ The risk of venous thromboembolism events due to immobilization of the patient can be reduced by using low molecular weight heparin preparations like fondaparinux which do not increase the risk of bleeding in ischemic stroke patients.⁹ Different designs, diagnostic criteria and method of patients' selection have been used by these studies. The time and duration of follow up also greatly varied. Therefore in these studies the frequencies reported for these specific complications also vary^{10, 11}. The limitations of the current study included cases at only one hospital, simple nature of some defined complications and focus on symptomatic complications. To improve the direct patient care of stroke and planning in the future the knowledge of these complications is necessary. By establishing specialized stroke units with well trained doctors and paramedical staff is the best possible way to reduce disability and economic burden of stroke.

CONCLUSION

The patients suffering from stroke are likely to develop medical complications beside neurological complications. These complications not only cause death but also delay the rehabilitation of the patients. Reduction in hospital stay and improvement in functional outcome can be done by early detection and treatment of these medical complications. This can lead to successful integration of post stroke patients into the society.

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Khllalani BA, Hameed B, Mapari U. Stroke in Pakistan J Pak Med Assoc 2008;58(7):400-3.
2. Khan FS, Zafar A, Malik A. Stroke in Pakistan. Reality challenges and a call for action. Pak J Neuro 2008;3(1):14-19.
3. van Eeden M, Kootker J, Evers S, van Heugten C, Geurts A, van Mastrigt G. An economic evaluation of an augmented cognitive behavioural intervention vs. computerized cognitive training for post-stroke depressive symptoms. BMC Neurol 2015;15(1).

4. Gu Y, Han B, Wang L, Chang Y, Zhu L, Ren W, et al. Low Serum Levels of Uric Acid are Associated With Development of Poststroke Depression. *Medicine* 2015;94(45):e1897.
5. Devenpart RJ, Denis MS. Well wood BA Complications after acute stroke. *Stroke* 1996; 27:415-420.
6. Bart H, Raaj Makers D, Kappelle L. Early complications of ischemic stroke current treatment option. *Neurol* 2008;10:440-449.
7. Khan A, Sherin A, Ahmed H, Acute complications of stroke. *JPGMI* 2004;18(2);220-224.
8. Karl GH, Wolf UH, Schmidt et al Cellular immunodepression preceding infections complication after acute ischemic stroke in *Human Cerebrovasc Dis* 2008;25:50-58.
9. Hackett C, Ramanathan R, Malhotra K, Quigley M, Kelly K, Tian M et al. Safety of venous thromboembolism prophylaxis with fondaparinux in ischemic stroke. *Thrombosis Research* 2015;135(2):249-254.
10. Dromerick A, Reding M, Medical and neurological complications during inpatient stroke rehabilitation stroke 1994;25:358-361.
11. Memon FA, Khoo Y, Ali S. Clinical audit of stroke patients presenting in a teaching hospital *Pak J Med Sci* 2009;25(6) 968-97.

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