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FACTORS ASSOCIATED WITH DELAY IN SEEKING MEDICAL CARE CAUSING STROKE RELATED COMPLICATIONS

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Abstract:

Objective: *Stroke is a life-threatening condition. It is the third leading cause of morbidity and mortality and affects considerably the life quality. Our hypothesis is that the main factor behind the complications related to stroke is the delay in pursuing medical treatment after the onset of stroke.*

Study Design: *A Descriptive Study.*

Place and duration: *In the Department of Neurology, Shalamar Hospital Lahore for Six months duration form July 2018 to December 2018.*

Methods: *100 total patients (male 64, female36) aged between 14 and 75 years (45 years mean) were included in the study. In patients who were delayed in receiving medical treatment has higher complications ratio ($p < 0.05$). 35% of patients initially presented 6 to 12 hours, 27% of 12 to 24 hours, and 36% a day later.*

Results: *Generally, 63% of patients present minimum twelve hours after the onset of stroke. The various problems were observed in patients with 12 hours delay or above: aspiration pneumonia (87.5%), seizures (81%), cannula site infection (100%), loss of consciousness (78%), stress ulcers (92.3%), mortality rate (8.9%), bed sores (100%), deep vein thrombosis (100%) and depression (91%).*

Conclusion: *Early management and rapid diagnosis are necessary to reduce mortality and morbidity after stroke.*

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INTRODUCTION:

According to World Health Organization criteria; Stroke is defined as promptly developing signs or symptoms of focal and sometimes symptoms of global brain function loss without a clear source other than vascular origin[1-3]. Stroke subtypes include embolic, hemorrhagic and thrombotic strokes. In general, solitary minimum number of patients receive medical attention during the first hours after the onset of stroke[4]. This is very important because (i) the brain tissue adjacent to the ischemic nucleus (penumbra) remains viable and responds to therapeutic mediation, and (ii) most patients have advance impediments in this initial period, such as seizures, aspiration pneumonia, infection and impaired consciousness[5-6]. Public awareness of stroke as a medical crisis that requires abrupt intervention is very important, as postponement may mean the difference between permanent disability and successful management[7].

MATERIALS AND METHODS:

100 total patients including male and female were included in the study. The diagnosis of stroke was grounded on physical examination, brain images (computed tomography) and medical history. Management, results and complications were documented in a planned questionnaire. For six months; the patients were followed up and data of follow-up was also documented. If the stroke was not the cause for admittance those patients were not included in this study. For statistical analysis; Chi-square and Descriptive statistics.

RESULTS:

On Tables 1 to 5; this study data is summarized. We divided the presentation time into three sections: 6-12 hours; 12-24 hours; above 24 hours. We noted that 37% of the patients went to the hospital between 6 and 12 hours, 27% in 12 to 24 hours, and 36% in one day. 36% patients overall took more than twelve hours before the stroke onset. 45 years was the mean age with reference range of 14 and 75 years (Table 1).

TABLE 1

Age Distribution of 100 patients with stroke

Age	No. of Patients	Male	Female
14-29 yrs	5	4 (80%)	1 (20%)
30-44 yrs	23	18 (78.2%)	5 (22%)
45-59 yrs	25	15 (60%)	10 (40%)
60 yrs	47	27 (57.4%)	20 (42.6%)

The major risk factor was ischemic heart disease, hypertension, diabetes mellitus, smoking, positive family history and deranged lipids profile of the blood. Other disorders included history of cardiac bypass surgery, chronic renal failure and mitral valve disease and previous cerebrovascular accident (Table 2).

TABLE.2
Risk Factors among 100 patients with stroke

Risk Factors	No. of patients	Male	Female
a) Hypertension	59	37 (63%)	22 (37.2%)
b) Ischemic heart disease	56	34 (61%)	22 (39.2)
c) Smoking			
d) Diabetes Mellitus	41	38 (93%)	3 (7.31%)
e) Hyperlipidemia	38	23 (61%)	15 (39.4%)
f) Family history of diabetes, hypertension	30	21 (70%)	9 (30%)
g) Mitral valve disease	27	19 (70.3%)	8(30%)
h) Recurrent stroke			
i) Bypass surgery			
j) Chronic renal failure	14	9 (64.2%)	5 (36%)
	11	6 (54.54%)	5 (45.45%)
	2	2 (100%)	-
	1	1(100%)	-

In 37% of the patients; cause was thrombotic, followed by embolic (28%), subarachnoid hemorrhage (4%) and bleeding (31%). Right sided hemiplegia was noted in 64% of cases and on the left side 36% of the cases were observed.

TABLE.3
Complications & Etiology of stroke

Complications	No. of patients	Hemorrhagic	Thrombotic	Embolic	SAH*
(i) Seizures	47	17(36.1%)	5(11%)	23(49%)	2(4.2%)
(i) Aspiration pneumonia	40	12(30%)	11(27.5%)	16(40%)	1(2.5%)
(ii) Deterioration of conscious level	36	18(50%)	11(36%)	6(17%)	1(3%)
(iii) Infection at cannula site	27	9(33.3%)	14(52%)	4(4%)	
(iv) Stress ulcer	13	5(38.4%)	6(46.1%)	2(15.3%)	
(v) Depression	11	4(36.3%)	5(45.4%)	2(18.1%)	
(vi) Bed sores	10	3(30%)	4(40%)	(30%)	

17 (17%) patients died from 100 patients. From these ten patients initially take more than one day for medical management, 5 of them take medical treatment within 6-12 hours and two of them reached within 6 hours. After 12 hours, 81% of the complications observed in patients seeking help were 87.5% having aspiration pneumonia, 78% deterioration, 92.3% stress ulcer, 100% decubitus ulcer, 100% in deep thrombosis vein and 91% in depression. The consultation delay was associated with advanced complication rates ($p < 0.05$).

TABLE.4
Tme of presentation and development of complications

Time of presentation	No. of patients	Complications	No. of patients	%
Within 6-12 hours	37	(i) seizure	9	24.3%
		(ii) deterioration of conscious level	8	22
		(iii) aspiration Pneumonia	5	13.5
		(iv) death	2	5.4
		(v) depression	1	2.7
		(vi) stress ulcers	1	2.7
12-24 hours	27	(i) Aspiration Pneumonia	9	33.3
		(ii) Seizures	9	33.3
		(iii) Infection at cannula site	8	30
		(iv) Deteriorated conscious level	7	26
		(v) Death	5	18.5
		(vi) Stress ulcers	3	11.1
		(vii) Depression	2	7.4
		(viii) Bed sores	1	3.7
1 day	36	(i) seizures	29	80.5
		(ii) aspiration Pneumonia	26	72.2
		(iii) deteriorated conscious level	21	58.3
		(iv) cannula infection	19	52.7
		(v) death	10	27.7
		(vi) bed sores	9	25
		(vii) stress ulcer	9	25
		(viii) depression	8	22.2
		(ix) deep vein thrombosis	2	5.55

In addition, male patients older than 60 years of age who developed hemorrhagic stroke in the left hemisphere and developed 12 hours after onset, had more complications than patients without these features.

TABLE.5
Complications & Delay in seeking medical help

Complications	1 day	12-24 hrs	6-12 hrs	Total No.
(i) Seizures	9 (62%)	9 (19.1%)	9 (19.1%)	47
(i) Aspiration pneumonia	26 (65%)	9 (22.5%)	5 (12.5%)	40
(ii) Deteriorated conscious level	21 (58.3%)	7 (19.44%)	8 (22.22%)	36
(iii) Cannula infection	19 (70.3%)	8 (30%)	-	27
(iv) Bed sores	9 (90%)	1 (10%)	-	10
(v) Stress ulcers	9 (69.3%)	3 (23%)	1 (8%)	13
(vi) Depression	8 (73%)	2 (18.1%)	1 (9%)	-
(vii) Deep vein thrombosis	2 (100%)	-	-	-

DISCUSSION

Stroke is considered to be a life-threatening emergency; commonly found in medical and neurological services globally, including Pakistan[8]. With latest developments, stroke can be reflected both as a treatable disease as well as preventable disease in which time matters a lot. This analysis was rely on physical examination detailed history, laboratory data and supporting images(Ct scan) to govern the risk factors, stroke subtype, outcomes and complications. Our decorum included a six-month follow-up. Patient sampling was unlikely and deliberate. It is a hospital based descriptive study[9]. A retrospectively study analyse the 100 patients data admitted to the Mayo Hospital Lahore in neurology department (personal communication) regarding the presentation time of the patients after the stroke onset[10]. This analysis showed that only some cases of stroke (6%) occurred within the first 6 hours of onset has taken medical management. Most of the cases (48%) appeared 24 hours later, and within 6 to 12 hours only 34% attended the hospital[11]. In our analysis, within 6 to 12 hours 37%, from 12 to 24 hours (27%) and after 24hours of the onset of stroke 36% have taken medical treatment. As in our study, a significant number of stroke patients were motivated to receive medical attention 1 day after the stroke onset[12-13]. There are limitations to this study (i) not a representative example of the stroke burden in the local community; and (ii) the number of patients is relatively low. Whether the results can be generalized cannot be generalized. Our findings emphasize the need for a larger study with a greater number of patients and longer observation times[14-15]. These data also underline the need for government and political authorities to take an active role in raising public awareness of the severity and complications of paralysis and the need to seek early and urgent medical attention.

CONCLUSION

We determine that most stroke patients present late after the stroke onset; and this factor results in significant increase of complications such as

seizures and aspiration pneumonia that negatively affect stroke outcomes. Late arrival also excludes limited and immediate therapeutic interferences such as thrombolytic tissue salvage therapy.

REFERENCES

1. McCann, Matthew R., Kevin W. Hatton, Olga A. Vsevolozhskaya, and Justin F. Fraser. "Earlier tracheostomy and percutaneous endoscopic gastrostomy in patients with hemorrhagic stroke: associated factors and effects on hospitalization." *Journal of neurosurgery* 1, no. aop (2019): 1-7.
2. Hertz, Julian T., Deng B. Madut, Gwamaka William, Venance P. Maro, John A. Crump, and Matthew P. Rubach. "Perceptions of Stroke and Associated Health-Care-Seeking Behavior in Northern Tanzania: A Community-Based Study." *Neuroepidemiology* (2019): 1-7.
3. Mirkowski, Magdalena, Amanda McIntyre, Pavlina Faltynek, Nicholas Sequeira, Caitlin Cassidy, and Robert Teasell. "Nonpharmacological rehabilitation interventions for motor and cognitive outcomes following pediatric stroke: a systematic review." *European journal of pediatrics* 178, no. 4 (2019): 433-454.
4. Patel, Urvish K., Preeti Malik, Matthew DeMasi, Abhishek Lunagariya, and Vishal B. Jani. "Multidisciplinary Approach and Outcomes of Tele-neurology: A Review." *Cureus* 11, no. 4 (2019).
5. Marcroft, C., Tsutsumi, A., Pearse, J., Dulson, P., Embleton, N.D. and Basu, A.P., 2019. Current Therapeutic Management of Perinatal Stroke with a Focus on the Upper Limb: A Cross-Sectional Survey of UK Physiotherapists and Occupational Therapists. *Physical & occupational therapy in pediatrics*, *39*(2), pp.151-167.
6. Pallesen, Hanne, Lena Aadal, Siri Moe, and Cathrine Arntzen. "Gateway to Recovery: A Comparative Analysis of Stroke Patients' Experiences of Change and Learning in Norway and Denmark." Rehabilitation research and practice 2019 (2019).
7. Giovagnoli, Anna Rita. "Epilepsy and Aging." In Handbook on the Neuropsychology of Aging and Dementia, pp. 401-425. Springer, Cham, 2019. Giovagnoli, Anna Rita. "Epilepsy and Aging." In Handbook on the Neuropsychology of Aging and Dementia, pp. 401-425. Springer, Cham, 2019.
8. Geraghty, Joseph R., Joseph L. Davis, and Fernando D. Testai. "Neuroinflammation and Microvascular Dysfunction After Experimental Subarachnoid Hemorrhage: Emerging Components of Early Brain Injury Related to Outcome." Neurocritical care (2019): 1-17.
9. Almekkawy, Mohamed, Jie Chen, Michael Ellis, Dieter Haemmerich, David Holmes, Cristian Linte, Dorin Panescu, John Pearce, Punit Prakash, and Vesna Zderic. "Therapeutic Systems and Technologies: State-of-the-Art, Applications, Opportunities and Challenges." IEEE Reviews in Biomedical Engineering (2019).
10. Schatz, Sara, and Melvin González-Rivera. "Executive Functioning, Visuo-Spatial and Inter-Personal Skill Preservation in Alzheimer's and Mild Cognitive Impairment." In Further Advances in Pragmatics and Philosophy: Part 2 Theories and Applications, pp. 373-389. Springer, Cham, 2019.
11. Lim, Y.P. and Stonestreet, B., PROTHERA BIOLOGICS Inc, Women and Infants Hospital of Rhode Island, 2019. Treatment of disease using inter-alpha inhibitor proteins. U.S. Patent Application 10/258,675.
12. Barata, L., Cabañas, A., Lafuente, H., Vargas, C., Ceprián, M., Campa, L., Jiménez-Sánchez, L., Pazos, M.R., Alvarez, F.J. and Martínez-Orgado, J., 2019. aEEG and neurologic exam findings correlate with hypoxic–ischemic brain damage severity in a piglet survival model. Pediatric research, p.1.
13. piglet, brain damage severity in a. "aeeg and neurologic exam findings correlate with hypoxic-ischemic brain damage severity in a piglet survival model."
14. Towbin, J.A., McKenna, W.J., Abrams, D.J., Ackerman, M.J., Calkins, H., Darrieux, F.C., Daubert, J.P., de Chillou, C., DePasquale, E.C., Desai, M.Y. and Estes III, N.M., 2019. 2019 HRS expert consensus statement on evaluation, risk stratification, and management of arrhythmogenic cardiomyopathy. Heart Rhythm.
15. Benjamin, Emelia J., Paul Muntner, Alvaro Alonso, Marcio S. Bittencourt, Clifton W. Callaway, April P. Carson, Alanna M. Chamberlain et al. "Employment Cost Index, Historical Listing–Volume V: Continuous Occupational and Industry Series: September 1975-December 2017. Table 4: employment cost index for total compensation, for civilian workers, by occupation and industry: continuous occupational and industry series." Circulation 139, no. 10 (2019): e56-e528.