



RISK FACTOR ASSESSMENT IN APHASIA PATIENTS OF FIRST EVER ISCHEMIC STROKE (FEIS)

Dr. Krishna Pal Kohli\*

P.G Resident Medicine, JMC, Jhalawar, Rajasthan. \*Corresponding Author

Dr. Akansha Jain

P.G Resident Medicine, JMC, Jhalawar, Rajasthan.

ABSTRACT

Stroke is an important cause of premature death and disability in low-income and middle-income countries like India. Approximately 1/3 of stroke patients may develop aphasia. By targeting various risk factors, we can reduce the incidence of stroke and also aphasia. **Objectives:** To assess various risk factors in patients of FEIS with Aphasia. **Method:** A prospective cross-sectional study in patients of FEIS with aphasia, were evaluated for well-known risk factors followed by stroke and language assessment using National Institute of Health Stroke Scale (NIHSS) and Modified Western Aphasia Battery (WAB)<sup>9</sup>. **Results:** Majority of the patients were between 66-70yr (48.52%) age group and mean age of study population was 69.07 ± 6.5 years. Patients with fluent and non-fluent aphasia had mean age of 65.80 years and 71.09 years respectively. Majority of patients were females (54.41%) and Hypertension (55.88%) was the most prevalent risk factor among study group followed by smoking. Hypertension showed significant correlation with the severity of stroke (p value=0.02). **Conclusion:** Early detection and prompt management of risk factors can help prevent this disabling events like stroke and aphasia.

**KEYWORDS :** Stroke, Aphasia, FEIS, Risk Factors

INTRODUCTION:

Stroke is becoming an important cause of premature death and disability in low-income and middle-income countries like India, largely driven by demographic changes and enhanced by the increasing prevalence of the key modifiable risk factors<sup>1</sup>. It is a well known cause of disability, dementia and death. Aphasia is an acquired language disorder where patient experiences impairment of various aspects of language. Approximately 1/3 of people with stroke will be diagnosed with aphasia.<sup>2</sup> Frequency of aphasia among stroke patients ranges from 21 to 38%.<sup>3</sup> **Non modifiable** risk factors for stroke include age, sex and genetic factors. The **Modifiable** risk factors for ischemic stroke include systemic hypertension, alcohol, smoking, hyperlipidaemia, diabetes and many more. By targeting various modifiable risk factors, we can reduce the incidence and burden of stroke and aphasia.

AIM AND OBJECTIVE:

To study various risk factors in patients of FEIS with Aphasia.

MATERIAL AND METHODS:

Patients with First ever ischemic stroke (FEIS), with age ≥ 18 years, reporting to the SRG Hospital Jhalawar, Rajasthan, within 7 days of stroke onset, during the study period were selected as per WHO definition of stroke (using simple random sampling technique).

Patients with haemorrhagic stroke, previous history of disturbed speech/hearing, mental obtundation, dementia, recent head injury, recurrent stroke, and metabolic disorders were excluded. History of well-known risk factors were evaluated, assessed clinically followed by relevant investigation. Stroke and language assessment was done using National Institute of Health Stroke Scale (NIHSS) and Modified Western Aphasia Battery (WAB)<sup>9</sup>. Data was recorded in excel sheet and evaluated using Chi-square test on SPSS 27.0.1.0 (Trial version), (p value < 0.05).

RESULTS:

Among 68 patients of Ischemic Stroke with aphasia, Majority of the patients were between 66-70yr (48.52%) age group and mean age was 69.07 ± 6.5 years. There were 31 male(45.59%) and 37 female(54.41%) patients. Based on aphasia type, mean age of patients with fluent aphasia was 65.80 years and that of non-fluent aphasia was 71.09 years.

Table 1: Prevalence Of Different Risk Factors

(Comorbidities) Among Study Group:

Risk Factor	Patients (n=68)	Percent
HTN	38	55.88%
Smoking	28	41.18%
Dyslipidaemia	18	26.47%
HeartDs	22	32.35%
TIA	15	22.06%
DM	12	17.65%

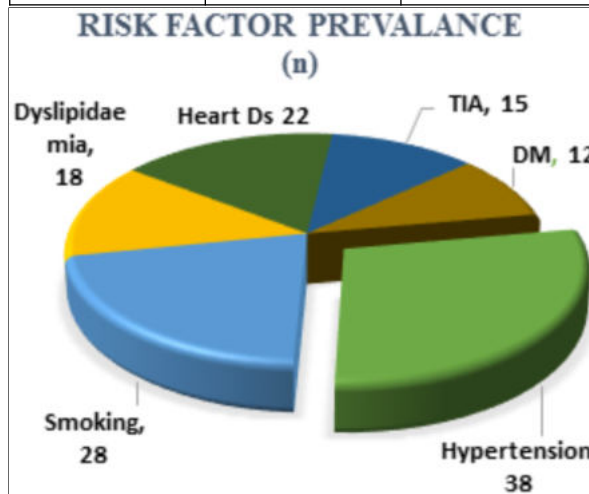


Fig.1: Risk Factor Prevalence In Study Group.

Hypertension (n=38) was the most common risk factor (55.88%) observed in the study group and it showed significant correlation with the severity of Stroke (p value=0.02). Smoking as a risk factor was seen in 41.18% patients (n=28), Heart disease (CAD/AF/Both) in 32.35% (n=22), Dyslipidaemia (n=18) in 26.47%, TIA(n=15) in 22.06% and DM (n=12) in 17.65% patients.

Severe Stroke (NIHS score ≥15) was prevalent in female (53.06%) patients and in patients with >65years of age.

Table 2: Prevalence Of Different Risk Factor (comorbidities) In Patients With NIHS Score ≥ 15.

Risk Factor	NIHS score ≥ 15 (n=49)
HTN	33 (p value 0.02)
Smoking	21
Dyslipidaemia	14

Heart Ds	14
TIA	14
DM	9

- Scholarly Research Notices, vol. 2014, Article ID 904647, 8 pages, 2014
9. Croquelois, A., & Bogousslavsky, J. (2011). Stroke aphasia: 1,500 consecutive cases. *Cerebrovascular diseases*, 31(4), 392-399

## DISCUSSION:

A total number of 68 patients of FEIS with Aphasia were included in the study. Mean age of study population was  $69.07 \pm 6.5$  years, similar to other studies, where mean age was reported to be varying from 60-80 years.<sup>2,5,6</sup> Majority of patients were in the age group of 66-70 year (n= 33, 48.52%). Rise in incidence of aphasia with increase in age has been documented in studies. Engelter S et al<sup>2</sup>, in a study on post stroke aphasia patients observed that every seventh stroke patient of age >65 years was found aphasic and the proportion tripled for subjects >85 years of age. They also reported that patients with aphasia had mean age 5 years higher than their non-aphasics counterparts. Gender composition in our study was predominated by females (n=37, 54.41%), similar to Engelter S et al.<sup>2</sup> Flowers HL et al,<sup>6</sup> Kadojić, D et al<sup>7</sup> and Giovanni Corso et al.<sup>8</sup> Croquelois, A. et al<sup>9</sup> in their study found aphasic patients to be more older than nonaphasics (61% of aphasic patients were more than 65 years old) but influence of gender was not demonstrated. In our study, M:F ratio of 1:1.19 was observed. This variation may be due to hormonal factors or OCP intake in female patients which may predispose them towards thrombotic events. Patient with Severe stroke (NIHSS  $\geq 15$ ), comprised of 26 (53.06%) females and 23 (46.93%) males, some studies in the past has found similar or more predilection of female patients to have higher degree of stroke.

Hypertension (n=38) was the most common risk factor (55.88%) observed in the study group, similar to previous other studies, where prevalence of hypertension was 40%-72%.<sup>2,5,6</sup> Hypertension was also found to be most prevalent risk factor (67.34%) among severe stroke patients and it also showed significant correlation with the severity of stroke (p=0.02). Smoking was the second most prevalent risk factor (41.18%), which was slightly higher than previous studies,<sup>2,5,6</sup> this can be attributed to the geographical/regional lifestyle variation. Other risk factors were in the range of observed prevalence by previous other studies<sup>2,5,6</sup>.

## CONCLUSION:

Stroke and Aphasia are very disabling condition, leaving patients physically and mentally challenged. Aging, Gender and Genetic predisposition being the non-modifiable factors, leaves us with only prevention of modifiable risk factors as the only option that will prove boon to individual and so to the society.

**Source of Support:** Nil

**Conflicts of Interest:** None.

## REFERENCES:

- Pandian, J. D., & Sudhan, P (2013). Stroke epidemiology and stroke care services in India. *Journal of stroke*, 15(3), 128-134.
- Engelter S, Gostynski M, Papa S, et al. Epidemiology of aphasia attributable to first ischemic stroke incidence, severity, fluency, etiology, and thrombolysis. *Stroke*. 2006; 37:1379-84.
- Pedersen PM, Jørgensen HS, Nakayama H, Raaschou HO, Olsen TS. Aphasia in acute stroke: incidence, determinants, and recovery. *Ann Neurol*. 1995 Oct;38(4):659-66.
- Dickey L, Kagan A, Lindsay MP, Fang J, Rowland A, Black S. Incidence and profile of inpatient stroke-induced aphasia in Ontario, Canada. *Arch Phys Med Rehabil* 2010;91:196-202.
- Bohra, V., Khwaja, G.A., Jain, S., Duggal, A. Ghuge, V., Srivastava, A. (2015) Clinicoanatomical correlation in stroke related aphasia. *Annals of Indian Academy of Neurology*, 18, 424-429.
- Flowers HL, Silver FL, Fang J, Rochon E, Martino R. The incidence, occurrence, and predictors of dysphagia, dysarthria, and aphasia after first-ever acute ischemic stroke. *J Commun Disord*. 2013 May-Jun;46(3):238-48.
- Kadojić, D., Rostohar Bijelić, B., Radanović, R., Porobić, M., Rimac, J., & Dikanović, M. (2012). Aphasia in patients with ischemic stroke. *Acta Clinica Croatica* 51(2.), 221-224.
- Giovanni Corso, Edo Bottacchi, Piera Tosi, Laura Caligiana, Chiara Lia, Massimo Veronese Morosini, Paola Dalmasso, "Outcome Predictors in First-Ever Ischemic Stroke Patients: A Population-Based Study", *International*