Outcome of AF Related Stroke in a Multiethnic Cohort

Yahia Z Imam¹, Dirk Deleu ¹, Saadat Kamran¹,M.S. Abdelmoneim¹ , Rajvir Singh² , Maher Saqqur¹, Numan Amir¹, Ahmad Muhammad¹ ,Naveed Akhtar¹ , Pablo Bermejo¹, M .Faisal Wadiwala¹and Ashfaq Shuaib^{1,3}

¹ Neuroscience Institute, Hamad Medical Corporation. P.O. Box 3050, Doha, Qatar
² Cardiac research centers, Hamad Medical Corporation, P. O. Box 3050, Doha, Qatar.
³ Division of Neurology, Department of Medicine, University of Alberta, Edmonton, Canada.

Background:

Atrial fibrillation (AF) is an important risk factor for stroke; it is associated with increased morbidity and mortality, there is limited data on AF related stroke from the Middle East.

Methods:

A retrospective review of a prospectively collected multiethnic Stroke database at Hamad General Hospital, Doha, Qatar, from 1st January 2014 thru 18 October 2017 was performed. Poor outcomes were defined as 3-6 on the Modified Rankin scale(mRs). Factors found to be significant at the univariate level were incorporated into a multivariate logistic regression model .Odds Ratios(OR) along with CI at 95% and p values were calculated.

Results:

Atrial fibrillation was present in 260 (6.4%) of the total database patients population. The mean age was 65.4+16 years for the AF Stroke cohort. Females represented (33.8%) of the cohort. Arabs from the MENA region (including Qataris) comprised 66.2% of the AF cohort whereas South Asians the biggest ethnic group in the Database (51.6% of the total cases) contributed 23.8% and other ethnicities 10%. In the multivariate model ,age odds ratios (OR) 1.11 (1.02 – 1.2, 95% CI) (p=0.015), female gender OR 8.86(1.07-73.36,95% CI) (p=0.043) and stroke severity on the National Institute of Health Stroke Scale(NIHSS) ;OR 1.37(1.12 – 1.68, 95% CI) (p=0.003); predicted a poor outcome on Modified Rankin score (mRs=3-6) at 90 days irrespective of other risk factors in this cohort. Whereas ethnicity, presence of non-lacunar stroke and Diabetes mellitus where not (p>0.05)

	Percentage of Database	Percentage of AF within Ethnicity	Percentage of AF cohort
Qatari	16.5%	11.6%	30%
MENA	19.4%	11.9%	36.2%
South Asians	51.6%	3%	23.8%
Others	12.5%	4.7%	10%

Table 1: AF percentage by ethnicity

Variables	At discharge			At 90 days		
	Adjusted OR	95% C.I.	P values	Adjusted OR	95% C.I.	P values
Age	1.03	1.00 – 1.07	0.045	1.11	1.02 – 1.2	0.015
Female gender	1.84	0.61-5.54	0.28	8.86	1.07-73.36	0.043
Diabetes melitus	1.76	0.63 – 4.92	0.28	3.04	0.4 – 22.53.	0.28
NIHSS	1.31	1.16 – 1.48	0.001	1.37	1.12 – 1.68	0.003
Non-lacunar Stroke	0.94	0.26-3.47	0.93	1.68	0.25-11.37	0.60

Table 2: Multivariate Logistic Regression of risk factors for a poor prognosis (mRS 3-6) at discharge and 90 days.

Conclusion:

Age, female gender and severe stroke are associated with poor outcomes in AF-related stroke in a younger, multiethnic, low AF-related stroke incidence population.