PREDICTION OF ATRIAL FIBRILLATION IN A MULTIETHNIC STROKE COHORT

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Background:

Atrial fibrillation (AF) is an important risk factor for stroke, particularly in the elderly. 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.

To define associations between qualitative variables and the presence of AF χ^2 tests and Fisher exact tests were used as appropriate. Student t tests were applied to compare interval variables in stroke patients with and without AF. Variables found to be significant at univariate level were used for multivariate logistic regression using AF as the dependent variable and expressed as adjusted OR and 95% C.I. with p values. A two-sided p value <0.05 was considered to be statistically significant.

Results:

The data of 4082 patients (81.4% male, mean age 55.4+ 13.3 years) were reviewed. AF was present in 260 (6.4%) patients and of these 106 (2.6%) had newly diagnosed AF. Contribution of different ethnicities are summarized in table 1.

The mean age of non-AF stroke was 54.7+12.8 vs. 65.4+16 years for AF Stroke (p<0.001). While females represented (17.6%) of the non-AF cohort, they represented (33.8%) of the AF cohort (p<0.001).

the multivariate model used to predict factors independently associated with AF in this cohort are shown in table 2.

	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	Adjusted OR	95% C.I.	P values
Age	1.04	1.02 – 1.06	0.001
Female gender	1.66	1.00-2.75	0.048
Coronary artery disease	2.01	1.15-3.5	0.014
Congestive heart failure	16.19	2.99-87.59	0.001
Valvular disease	12.81	3.51-46.76	0.001
NIHSS at presentation	1.02	0.98-1.06	0.4
Non-lacunar stroke	2.49	1.47-4.19	0.001
Posterior circulation stroke	2.07	1.20-3.55	0.009

Table 2: Multivariate logistic regression of risk factors for atrial fibrillation related stroke.

Conclusion:

Age ,female gender, presence of cardiac disease ,non-lacunar and posterior circulation strokes were independently associated with AF-related stroke in a younger, multiethnic, gender skewed low AF prevalence population. AF-stroke occurs a decade younger than in the western populations.