Stroke in the Middle East and North Africa: a 2-year prospective observational study of stroke characteristics - SITS MENA Registry

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Background

Stroke incidence and mortality is reported to have increased in the Middle-East and North African (MENA) countries during the last decade.

Methods

A 2 year, prospective observational study to examine baseline characteristics and to compare the MENA vs. non-MENA stroke cohort in the SITS International Registry

Results

- Of 13822 patients in the SITS All Patients Protocol (June’14-May’16), 5897 (43%) were recruited in MENA.
- The median onset-to-door time (OTD) was 5 h (2:20-13:00), median NIHSS score was 8 (4-13), and age 65 years (56-76). Hypertension (66%) and diabetes (38%) were the prevailing risk factors. Large artery stenosis > 50% (25.3%) and lacunar strokes (24.1%) were the most common ischemic etiologies.
- In non-MENA countries median OTD was 5h50min (2:00-18:45), median NIHSS 6 (3-14), and age 66 years (56-76), with other large artery disease and cardiac embolism as the main ischemic etiologies.
- Hemorrhagic strokes (10.0%) were less common than in non-MENA countries (13.9%). In MENA, a low proportion of patients (21%) were admitted to stroke units.

Table 1. Values reported as median (IQR) or %. NIHSS: NIH Stroke Scale. OTD: onset to door time.3m: 3 months. TIA: transient ischemic attack.

	MENA, n=5897		Non-MENA, n=7925		
Clinical parameters	No./Total	Value	No./Total	Value	P
Median Age	5894	65 (56-76)	7921	66 (56-76)	0.76
Median NIHSS	5766	8 (4-13)	7462	6 (3-14)	<0.001
Median OTD (hours)	2605	5:00 (2:20-13:00)	6193	5:56 (2:00-18:45)	0.23
Sex (f)	2350	39.9%	3438	43.4%	<0.001
Risk factors					
Hypertension	3640/5542	65.7%	5678/7595	74.8%	<0.001
Diabetes	2194/5714	38.4%	2010/7582	26.5%	<0.001
Hyperlipidemia	986/5726	17.2%	2126/7307	29.1%	<0.001
Atrial fibrillation	301/5825	5.2%	1188/7474	15.9%	<0.001
Heart failure	267/5822	4.6%	1542/7516	20.5%	<0.001
Smoker, current	616/5681	10.8%	994/6009	16.5%	<0.001
Smoker, previous	161/5411	3.0%	641/5623	11.4%	<0.001
Previous stroke >3m	734/5779	12.7%	843/6234	13.5%	0.18
Previous stroke <=3m	181/5796	3.1%	185/6262	3.0%	0.59
Previous TIA	234/5802	4.0%	293/6356	4.6%	0.12

Conclusions

- Stroke patients in MENA countries are slightly younger, have more often diabetes and slightly more severe ischemic strokes, commonly of atherosclerotic or microvascular etiology.
- Stroke patients in MENA countries have less often hemorrhagic strokes.
- It is suspected that cardiac embolism and atrial fibrillation are currently underdiagnosed.
- Admission to stroke units and long-term follow-up needs to be improved in MENA countries.

Type of ischemic stroke

mRS at 7 days or at discharge*