Clinical characteristics and outcomes of ischemic stroke patients during Ramadan vs. non-Ramadan months: Is there a difference?

Naser Alotaibi, Mohammed A. Aldriweesh, Muath A. Alhasson, Bayan A. Al Bdah, Abdulaziz A. Aldbas, Waleed A. Alluhidan, Sultan A. Alsaiif, Faisal M. Almutairi, Mohammed A. Alskaini, Ali M. Al Khathaami

College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), SA; Division of Neurology, Department of Medicine, King Abdulaziz Medical City (KAMC-RD), National Guard Health Affairs, SA; King Abdullah International Medical Research Center (KAIMRC), SA

Introduction

- During Ramadan, the 9th month of the Islamic calendar, most Muslims worldwide fast for about 18 h or more each day with a risk of hypoglycemia, dehydration, and changes in blood pressure.
- In Saudi Arabia, the incidence of all strokes ranged between 175.8 and 196.2 per 100,000; and was between 39.7 and 48.6 for intracerebral hemorrhage. Also, the rate for ischemic stroke was between 131.0 and 151.5.
- The goal is to study the clinical characteristics and outcomes of patients experiencing an ischemic stroke during Ramadan vs. non-Ramadan months.

Methodology

- Retrospective, cohort study from February 2016 – July 2019 at Stroke Unit-King Abdulaziz Medical city, Riyadh, Kingdom of Saudi Arabia.
- The patients were divided into two groups: Non-Ramadan and during Ramadan. We define the “Non-Ramadan” group as patients diagnosed with ischemic stroke in the months before and after Ramadan during the 4 years of the study.
- We compared vascular risk factors, In-hospital death, mRS 3-5, and LOS between the two groups.
- All statistical tests were considered significant at a P-value < 0.05. Stata Statistical program (v. 15) was used for analysis.

Results

1058 patients were included (non-Ramadan, n = 960; during Ramadan, n = 98).

- Most non-Ramadan IS patients during Ramadan were male (68.5%; 57.1%, respectively).
- No statistical difference in vascular risk factors and medical history between the two groups.
- Ramadan patients had higher median NIHSS scores at discharge (p = 0.0045). More ICU admissions were noted among Ramadan patients (p = 0.009).

Discussion & Conclusion

- Based on our results, there was no difference, in general, between patients with IS during Ramadan and non-Ramadan months.
- IS patients had higher NIHSS scores at discharge and more ICU admissions during Ramadan.
- Ramadan have different gender distribution of IS patients compared to the rest of the year, could be attributed to population-specific factors since other studies did not show this variation.
- Last, we suggest future studies with larger sample sizes, longer duration, and including all types of strokes.

References