



Subjective Sleep Evaluation in Patients with Basal Ganglia Stroke and Its Association with Clinical Outcome

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INTRODUCTION

AIM

- Limited data are available on sleep quality and its disorders in patients with ischemic stroke prior to the acute event, as well as their correlation with clinical outcomes
- Stroke caused by proximal Middle Cerebral Artery (MCA) occlusion, treated with thrombectomy, frequently leads to selective ischemic lesions in the basal ganglia
- The aim of this study is to evaluate whether subjective pre-stroke sleep quality is associated with 3-month outcome in patients with selective ischemic lesions of the basal ganglia following successful recanalization of an M1 segment occlusion of the MCA

METHODS

Study Design: prospective observational study

Inclusion Criteria:

- Both sexes
- Age ≥ 18 years
- Stroke due to M1 occlusion of MCA undergoing successful recanalization and resulting in a selective Basal Ganglia Lesion
- Baseline modified Rankin Scale (mRS) score of 0-1
- Hospitalization in Stroke Unit

Exclusion Criteria:

- Patients with Aphasia
- Unstable clinical conditions requiring mechanical ventilation
- Other neurological conditions

Forty-four patients with stroke due to M1 occlusion underwent successful mechanical thrombectomy were prospectively recruited.

The following questionnaires were administered during the hospitalization in Stroke Unit: Pittsburgh Sleep Quality Index (PSQI); Epworth Sleepiness Scale (ESS); Beck's Depression Inventory – Short Form (BDI-SF); Insomnia Severity Index (ISI).

The data were analyzed by comparing two groups of patients.

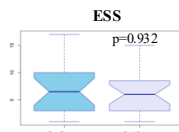
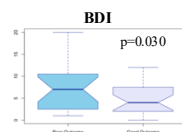
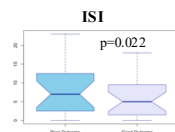
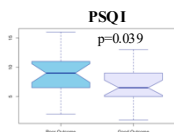
Good Outcome
(mRS= 0-2)

Poor Outcome
(mRS= 3-6)

RESULTS

- The study group had a median age of 76 years (IQR=17) and an admission NIHSS score of 16 (IQR=7), indicating a moderate-to-severe stroke. Among the participants, 24 (54.5%) achieved a favorable outcome.
- A higher NIHSS at discharge was associated with poor Outcome ($p < 0.001$).
- Regarding questionnaire results, elevated scores on the PSQI ($p = 0.039$), BDI ($p = 0.030$), and ISI ($p = 0.022$) were significantly associated with unfavorable outcomes.

Demographics	Good Outcome n=24				Poor Outcome n=20				Mann-Whitney		Pearson's χ^2	
	Median	IQR	n	%	Median	IQR	n	%	p	p		
Age	75,5	19,5	12	50	77,5	15,75	8	40	0,065			
BMI	27,2	5,9	12	50	25,85	4,97	8	40	0,283			
NIHSS at presentation (ER)	15	8	12	50	17,5	5,75	8	40	0,128			
NIHSS at discharge	0	2	13	54,16	4	7	7	35	<0,001			
Thrombolysis			13	54,16			7	35		0,333		
Hypertension			17	70,83			18	90		0,232		
Diabetes			1	4,16			6	30		0,054		
Atrial fibrillation			11	45,83			12	60		0,526		
Dyslipidaemia			4	16,66			6	30		0,490		



CONCLUSIONS

- Higher Insomnia Severity Index scores, depressive symptoms, and poor sleep quality prior to the stroke are associated with worse 3-month neurological outcomes in patients undergoing successful thrombectomy.
- Sleep health should be considered a critical preventive factor to reduce the incidence and mitigate the impact of stroke.

REFERENCES

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