

VASCULAR COMORBIDITY AND COGNITION IN MIGRAINE

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Objective

The aim of this study is to characterize the interictal cognitive and psychological profile in migraine patients (migraine without aura, with aura and chronic, 3 groups) and to investigate the relationship with vascular comorbidities.

Methods

With a cross-sectional prospective design, 231 patients (48 of whom were male) aged 18-69 years with a definite diagnosis of migraine who were admitted to, headache outpatient clinics from a total of 6 centers were included in the study.

Table 1: Evaluation of the difference between total scores according to Migraine Type

Type of Migraine	with /without Aura n=186	Chronic n=45	
Scors	$\bar{x} \pm SD$	$\bar{x} \pm SD$	p
Frequency (monthly)	6,2±4,2	17,3±9,5	<0,001
Duration (hour)	20,7±8,01	26,8±12,1	0,04
MOCA	23,7±3,8	24,4±3,3	0,25
Visuospatial	4,5±0,9	4,3±1,1	0,09
Naming	2,9±0,3	2,9±0,3	0,66
Attention	4,9±1,5	5,1±1,3	0,02
Language	2,5±0,6	2,3±0,8	0,3
Abstract thinking	1,6±0,4	1,7±0,4	0,14
Delayed Recall	2,9±1,2	2,8±1,3	0,42
Orientation	5,1±1,2	5,9±0,2	<0,001
MIDAS	3,3±0,9	3,6±0,7	0,02
MIG SCOG	10,4±4,8	10,3±5,1	0,9
HIT-6	52,7±16,3	66,7±5,6	<0,001
BECK ANX.	12,9±8,2	15,9±8,2	0,05
BECK DEPRES.	13,4±6,3	15,1±9,7	0,17

Table 2. Correlation between duration of disease, frequency and duration of attacks and questionnaire scores

		Duration of disease (year)	Frequency (monthly)	Duration of attack (hour)
MOCA	r	0,1	0,05	0,01
	p	0,14	0,5	0,8
MIDAS	r	0,06	0,50	0,07
	p	0,38	<0,001	0,27
MIG SCOG	r	0,07	0,04	-0,30
	p	0,28	0,5	0,01
HIT-6	r	0,30	0,30	0,50
	p	<0,001	<0,001	<0,001
BECK ANX	r	0,09	0,12	0,30
	p	0,18	0,2	0,01
BECK DEPRES.	r	0,01	0,30	0,7
	p	0,83	0,02	0,26

Table 3. Z test (P >0.05)

Comorbidity	MoCA > 24 n: 109	MoCA ≤ 24 n: 122	p value
Hypertension n %	5 (4.5)	13 (10.7)	0.09
Diabetes n %	4 (3.6)	8 (6.6)	0.33
Hyperlipidemia n %	12 (11)	22 (18)	0.14
Coronary Arter.Disease n %	4 (3.6)	4 (3.3)	0.86
Stroke n %	2 (1.8)	4 (3.3)	0.49
Myocard Infarct. n %	2 (1.8)	2 (1.6)	0.91



Results

- 45 patients had chronic migraine and 78 patients had medication overuse headache. Anxiety and depression, HIT-6, MIDAS scores were significantly higher in the group with medication overuse headache (p<0,001) (Table-1)
- The median MoCA overall score was calculated as 24 and the cut off value was taken as 24 and above. The rate of patients with an overall MoCA score below 24 was 52.8% (n:122).
- No relationship was found between MoCA scores, migraine type and duration of disease (p: 0.56).
- MoCA scores were lower in the group with medication overuse, although not reaching significance (p:0.18). This may be related to the small sample size.
- Hypertension was present in 7.9%, diabetes in 5.2%, insulin resistance in 16.1%, and hyperlipidemia in 14.8% of the patients.
- There was no significant difference in the incidence of comorbidities according to MoCA test performance of 24 and below. (p >0.05, Table-3).
- There was a significant positive correlation between duration of disease, frequency and duration of migraine attacks (p<0.05). (Table- 2).

Conclusions

- According to our results; patients with migraine regardless of vascular comorbidity have no impairment in general cognitive functions.
- In patients with medication overuse headache, changes related to behavioral scores.
- While there is no clear evidence to support that migraine increases the risk of long-term or persistent cognitive dysfunction, the fact that it occurs during attacks and may persist in people with frequent to severe attacks should promote understanding of the mechanisms related to the pathophysiological processes and comorbidities underlying migraine.

