Letter to the Editor

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Comment on "Subjective Cognitive Decline Patterns in Patients with Migraine, with or without Depression, versus Non-Depressed Older Adults"

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I read with great interest the article by Lee and Cho,[1] "Subjective Cognitive Decline Patterns in Patients with Migraine, with or without Depression, versus Non-depressed Older Adults," published in *Headache and Pain Research*. The authors reported that, although patients with migraine and depression were younger and had higher educational attainment, their subjective cognitive decline questionnaire (SCD-Q) scores were comparable to those of older adults without depression and were significantly higher than those of patients with migraine without depression (mean SCD-Q scores: 10.39±5.39, 10.11±5.55, and 6.79±3.80, respectively). I commend the authors for examining SCD, a frequently overlooked interictal symptom, in young patients with migraine. Although this observation is clinically meaningful, several methodological and interpretive issues may limit the conclusions that can be drawn.

First, as the authors correctly noted in the limitations section, objective cognitive function was assessed differently across the two clinic populations. Participants from the memory clinic underwent the Seoul Neuropsychological Screening Battery-II, a comprehensive battery with normative data across multiple cognitive domains. In contrast, participants from the headache clinic completed only the Korean Mini-Mental State Examination and Korean Montreal Cognitive Assessment as screening tools.[2,3] These brief instruments are known to have ceiling effects in younger individuals with higher educational attainment, who constituted most of the headache clinic group. Therefore, the absence of differences in objective cognitive scores between patients with migraine with and without depression may reflect the limited sensitivity of the screening tools rather than true cognitive equivalence. This issue raises a fundamental concern: the "cognitively normal" classification applied to the headache clinic cohort may not be directly comparable to the classification applied to the memory clinic cohort.

Second, cross-group comparability was further limited by the use of different depression instruments. The Short-form Geriatric Depression Scale was used in the memory clinic population, whereas the Patient Health Questionnaire-9 (PHQ-9) was used in the headache clinic population.[4,5] These scales differ in both psychometric properties and conceptual emphasis. The Short-form Geriatric Depression Scale was developed for older adults and places less emphasis on somatic symptoms. By contrast, the PHQ-9 includes somatic items that may systematically inflate depression scores in patients with migraine, a condition characterized by substantial somatic burden. Because different scales were used across groups, direct comparisons of depression severity—and, by extension, the thresholds

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used to classify participants as "non-depressed"—are inherently problematic. Although the authors acknowledged this limitation, they did not fully discuss how it may have introduced classification bias within each group.

Third, the potential confounding effect of headache-specific characteristics on SCD-Q scores warrants careful consideration. Migraine is associated with interictal cognitive symptoms, including difficulties in attention, working memory, and executive function. These symptoms may vary according to headache frequency, medication use, and chronicity.[6,7] The authors stated that headache characteristics, including frequency, chronicity, and treatment, were not collected for the present analysis. The omission of medication overuse as a covariate may be particularly important because medication overuse is common in clinic-based migraine populations and is independently associated with cognitive complaints and mood disturbance. Without adjustment for these migraine-specific factors, it is difficult to determine whether the elevated SCD-Q scores in patients with migraine and depression reflect depression-related cognitive bias, headache-related cognitive dysfunction, medication effects, or a combination of these factors.

Fourth, the authors' conclusion that individuals with migraine and depression warrant heightened surveillance for cognitive decline is clinically intuitive but should be interpreted cautiously. The findings suggest that comorbid depression may amplify subjective cognitive vulnerability in patients with migraine, consistent with the well-established influence of affective symptoms on self-perceived cognitive function. However, a recent large meta-analysis found that higher depressive symptoms in individuals with SCD did not independently increase the risk of progression to dementia, whereas anxiety and SCD-related worry did.[8] By extension, elevated SCD-Q scores in patients with migraine and depression may primarily reflect depressive symptomatology, particularly the negative cognitive bias well documented in depression, rather than a preclinical neurodegenerative signal.[9] The cross-sectional design of the study precludes inferences about the longitudinal trajectory of cognitive decline in this group. Future prospective studies incorporating neuroimaging biomarkers, comprehensive neuropsychological assessments, and migraine-specific variables are needed to determine whether the observed SCD pattern in patients with migraine and depression has meaningful prognostic implications for future dementia risk.

Despite these concerns, I commend the authors for highlighting a clinically underrecognized intersection among migraine, depression, and subjective cognitive complaints. Their work underscores the need to consider cognitive symptoms in the clinical assessment of young patients with migraine, particularly those with comorbid depression.

AVAILABILITY OF DATA AND MATERIAL

Not applicable.

AUTHOR CONTRIBUTIONS

Conceptualization: JHS; Writing–original draft: JHS; Writing–review and editing: JHS.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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