Are Subjective Memory Complaints Mandatory for the Diagnosis of Mild Cognitive Impairment?

Haruo Hanyu, Hirofumi Sakurai and Toshihiko Iwamoto

Key words: mild cognitive impairment, awareness, memory complaint

(DOI: 10.2169/internalmedicine.46.6241)

Mild cognitive impairment (MCI) is considered to refer to a transitional zone between normal cognitive function and dementia. Many researchers have utilized a variety of criteria for defining cognitive impairment, but it remains under debate whether or not subjective memory complaints are mandatory for the diagnosis of MCI. Since subjective memory deficits may be associated with the level of awareness, it should be determined whether or not the subjects with MCI have impaired awareness. In order to clarify this issue, we examined the level of awareness of memory deficits in patients with MCI and compared with that in patients with Alzheimer’s disease (AD).

We included 37 patients with mild AD, a score of 20 or above on the Mini-Mental State Examination (MMSE), and 44 patients with amnestic MCI. AD was defined from the NINCDS-ADRDA criteria for probable AD (1), and amnestic MCI was defined by an operationalization of the criteria of Petersen et al (2). Subjects have objective memory impairment, while nonmemory cognitive domains, including language, executive function, visuospatial skills, and other higher cortical functions are preserved.

The unawareness of memory impairment was evaluated with a standardized questionnaire system based on the Everyday Memory Checklist (EMC) (3, 4). The EMC consisted of 13 questions concerning areas of daily life and each answer was rated as never (0 points), sometimes (1 points), usually (2 points), or always (3 points). Thus, higher scores indicate more severe impairment. The EMC scores for the patient’s own rating, the caregivers’ rating and the unawareness score, defined as the discrepancy between these (caregiver rating-patient rating), were analyzed. The reliability and validity of the EMC in amnestic patients, including AD, have been demonstrated to be acceptable (3). Values are expressed as means±SD. Statistical analysis was performed using Student’s t-test, χ² test, and the Mann-Whitney U test.

No significant differences between AD and MCI groups were found in terms of age (77.9±6.5 years vs. 78.0±5.7 years), gender (men/women, 15/22 vs. 20/24), and education.

Figure 1. Differences of patients and caregivers reports on Everyday Memory Checklist in Alzheimer’s Disease (AD) and mild cognitive impairment (MCI) groups.
level (12.7±2.1 years vs. 12.5±2.5 years). The AD group had a significantly lower MMSE score compared to the MCI group (22.4±1.8 vs. 25.9±1.4, p<0.0001). Although between-group comparison showed comparable EMC self-rating scores in AD and MCI groups (11.1±6.7 vs. 10.5±5.0), EMC scores in caregivers were significantly higher in the AD group than in the MCI group (23.9±7.2 vs. 16.9±7.3, p<0.001) (Fig. 1). Therefore, the unawareness score was significantly higher in the AD group than in the MCI group (12.8±8.6 vs. 6.5±7.1, p<0.001). When an unawareness score of 9 or more was defined as significant [the cutoff of 8/9 was optimal different score between caregiver rating and patient rating in a previous study (4)], impaired awareness was found in 23/37 (62%) patients with AD and in 18/44 (41%) patients with MCI. There was no significant difference in the frequency between the two groups ($\chi^2$=3.62, p=0.557).

We found that MCI patients also showed impaired awareness of memory deficit, though not to the same extent of AD. In a recent cohort study, the requirement that all MCI cases have a subjective memory complaint did not identify MCI cases with different progression rates in disability or cognitive impairment (5). In conclusion, we consider that subjective memory complaints should not be obligatory in the diagnosis of MCI because of impaired awareness of deficits.

References