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Mild Cognitive Impairment: Implications of Diagnosis

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Mild cognitive impairment (MCI) reflects the interim stage between normal cognitive functioning and more severe and irreversible cognitive decline that can be associated with dementia. Prevalence estimates suggest 12% to 18% of older adults (>60 years) develop MCI [1]. Risk factors for MCI include being male, older age, lower education level (i.e., lower cognitive reserve), diabetes and hypertension, apolipoprotein E (APOE) e4 genotype, and sleep disorders [2]. MCI presents as four phenotypes: amnestic single, amnestic multiple, non-amnestic single and non-amnestic multiple, and classification depends upon the affected cognitive domain. MCI is a common precursor to Alzheimer's disease and other neurodegenerative disorders including dementia with Lewy bodies, frontotemporal dementia, and vascular cognitive impairment [1].

Since the focus on MCI in the scientific literature over the past two decades, there has been significant variability in evaluating and diagnosing MCI within and between research and clinical practice [3]. There is some scientific consensus, however, that a positive diagnosis of MCI involves [4]: (1) patient reported subjective cognitive decline supported by an informant-validated history of changes in cognition, (2) neuropsychological deficits in cognitive function not normal for age or level of education, (3) cognitive deficits that do not impair daily activities, and if available, (4) structural brain imaging (e.g. positron emission tomography or magnetic resonance imaging) [5,6] to support classification of an MCI syndrome. MCI is, however, heterogeneous and health practitioners must be conservative in their use of diagnostic labels, particularly in the absence of certainty.

There are positive and negative implications associated with communicating a diagnosis of MCI to a patient and their family. Positive implications can include a sense of relief often associated with confirming a patient's on-going perception of their health and cognitive function, as well as providing a starting point for planning for the long-term implications of living with cognitive decline that may increase in severity and lead to dementia [7]. Conversely, an MCI diagnosis has many negative implications including overwhelming feelings of anxiety and fear for one's health, the potential impact of 'courtesy stigma' associated with an MCI diagnosis [8] and an individual's perceived autonomy in personal and professional relationships post-diagnosis [9]. Patients who receive a diagnosis also report feelings of frustration surrounding the current paucity of treatment options for MCI [10]. Serious negative consequences may also result from potential false-positive diagnoses when clinicians are limited by available resources (i.e., only using screening measures in absence of neuropsychological assessment and structural brain imaging) and knowledge of the temporal nature of MCI (i.e., some patients with MCI revert back to normal cognition) [11].

Early detection of MCI as a prodromal feature of dementia is of paramount importance with the ever increasing ageing population and the rise of dementia as the second leading cause of death in Australia [12]. However, there is currently no treatment option available for MCI and health practitioners need to ensure they are aware of the implications associated with an MCI diagnosis. All suspected cases of MCI must be accompanied by a thorough neuropsychological assessment of cognitive function and, when possible, structural brain imaging to detect cortical atrophy associated with MCI. For patients at risk of developing MCI, promising evidence suggests a multimodal approach including diet, physical activity, cognitive training and monitoring vascular risk may maintain and improve cognitive function during older age [13].

References

1. Petersen RC (2016) Mild cognitive impairment. Continuum (Minneap Minn) 22: 404-418.
2. Langa KM, Levine DA (2014) The diagnosis and management of mild cognitive impairment: A clinical review. JAMA 312: 2551-2561.
3. Winblad B, Palmer K, Kivipelto M, Jelic V, Fratiglioni L, et al. (2004) Mild cognitive impairment beyond controversies, towards a consensus: Report of the international working group on mild cognitive impairment. J Intern Med 256: 240-246.
4. Petersen RC, Caracciolo B, Brayne C, Gauthier S, Jelic V, et al. (2014) Mild cognitive impairment: A concept in evolution. J Intern Med 275: 214-228.
5. Vos SJ, Verhey F, Frölich L, Kornhuber J, Wiltfang J, et al. (2015) Prevalence and prognosis of Alzheimer's disease at the mild cognitive impairment stage. Brain 138: 1327-1338.
6. Jack Jr CR, Wiste HJ, Vemuri P, Weigand SD, Senjem ML, et al. (2010) Brain beta-amyloid measures and magnetic resonance imaging atrophy both predict time-to-progression from mild cognitive impairment to Alzheimer's disease. Brain 133: 3336-3348.
7. Grill JD, Apostolova LG, Bullain S, Burns JM, Cox CG, et al. (2017) Communicating mild cognitive impairment diagnoses with and without amyloid imaging. Alzheimers Res Ther 9: 35-42.
8. Beard RL, Neary TM (2013) Making sense of nonsense: Experiences of mild cognitive impairment. Sociol Health Illn 35: 130-146.
9. Fang ML, Coatta K, Badger M, Wu S, Easton M, et al. (2017) Informing understandings of mild cognitive impairment for older adults: Implications from a scoping review. J Appl Gerontol 36: 808-839.
10. Gomersall T, Smith SK, Blewett C, Astell A (2017) 'It's definitely not Alzheimer's': Perceived benefits and drawbacks of a mild cognitive impairment diagnosis. Br J Health Psychol 22: 786-804.
11. Wolk DA, Price JC, Saxton JA, Snitz BE, James JA, et al. (2009) Amyloid imaging in mild cognitive impairment subtypes. Ann Neurol 65: 557-568.
12. Australian Bureau of Statistics (2017) 3303.0 - Causes of Death, Australia, 2016.
13. Ngandu T, Lehtisalo J, Solomon A, Levälahti E, Ahtiluoto S, et al. (2015) A 2 year multidomain intervention of diet, exercise, cognitive training and vascular risk monitoring versus control to prevent cognitive decline in at-risk elderly people (FINGER): A randomised controlled trial. Lancet 385: 2255-2263.

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