Mild Cognitive Impairment

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KEYWORDS

• Mild cognitive impairment • MCI • Early dementia • Cognitive decline
• Memory impairment

KEY POINTS

- Mild cognitive impairment (MCI) occurs along a continuum with normal cognition at one end of the continuum and dementia at the other.
- Guidelines for universal screening have not been established, but would likely facilitate earlier diagnosis and treatment.
- MCI is not synonymous with Alzheimer disease and does not always progress to dementia.
- There are no approved pharmacologic treatments for MCI, but progression may be slowed or stopped with attention to treating reversible causes and making lifestyle changes.

INTRODUCTION

Mild cognitive impairment (MCI), first fully characterized by Petersen and associates in 1997,[1] generally refers to impairment in cognition above that which is seen with normal age-related cognitive decline, but not severe enough to cause significantly impaired daily function (**Fig. 1**). Clinically, the term "age-related cognitive decline" is synonymous with changes in memory and cognition that are characteristically seen with advancing age or "normal aging." Although there are 6 main cognitive domains that could potentially be affected (learning and memory, social functioning, language, visuospatial function, complex attention, or executive functioning),[2,3] the term "mild cognitive impairment" generally refers to a decline in the ability to learn new information or recall stored information. Keeping in mind these main cognitive domains, MCI can be further classified as "amnestic" versus "nonamnestic." Amnestic MCI refers to impairment purely in one's ability to recall stored information, whereas nonamnestic MCI refers to impairment in 1 or more of the other cognitive domains, while memory remains relatively intact.[4] Nonamnestic cognitive decline is comparatively less common and often more difficult to diagnose than the amnestic form of MCI.

The author has no financial disclosures, outside funding sources, or conflicts of interest.
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Clin Geriatr Med ■ (2017) ■–■
http://dx.doi.org/10.1016/j.cger.2017.02.005 **geriatric.theclinics.com**

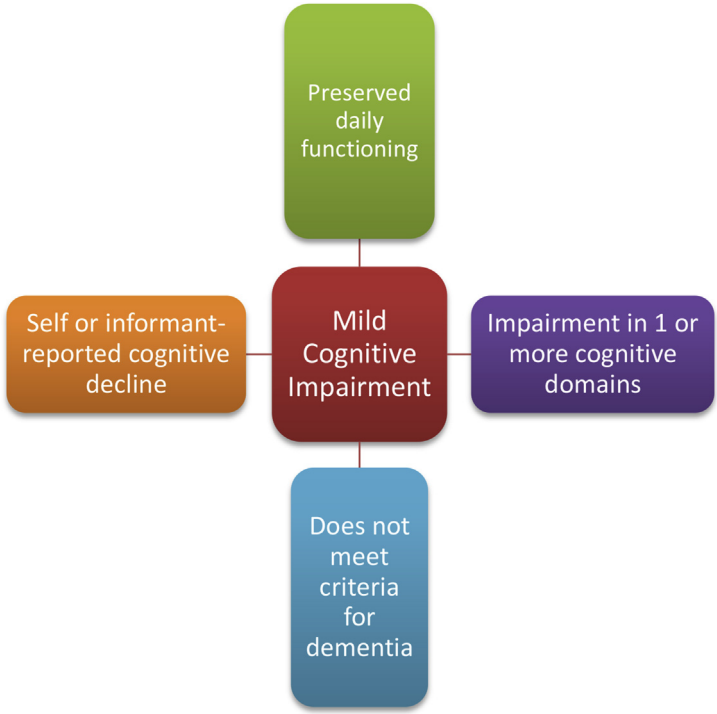

Fig. 1. Characteristics of mild cognitive impairment. (*Adapted from* Petersen RC, Smith GE, Waring SC, et al. Aging, memory and mild cognitive impairment. Int Psychogeriatr 1997;9 Suppl 1:65–9; with permission.)

Although not defined by earlier editions, the *Diagnostic and Statistical Manual of Mental Disorders 5th Edition* (DSM-V) classifies MCI as a "mild neurocognitive disorder," and specifies that there must be both a subjective and objective decline from previous level of functioning in 1 or more of the 6 cognitive domains, not substantially interfering with instrumental activities of daily living, and not occurring in the context of delirium or other psychological disorders.[3] Remarkably, none of the common definitions of MCI list advanced age as a criterion, although most of the research conducted in this area occurs in the geriatric population.[5] To further build on these definitions, MCI should be recognized as part of a spectrum, with normal cognition on 1 end of the spectrum and dementia on the other end. Most people undergo some degree of cognitive decline as they age, but MCI exceeds this "age-related" decline in cognition, yet does not meet the criteria for dementia. Not all cases of MCI are precursors to dementia and not all are progressive. Fortunately, many cases revert back into the range of normal cognition. It is not always possible to predict the course of MCI in individuals, but a main goal for clinicians should be screening and early diagnosis so that causative factors can be identified and treated, ideally, preventing or postponing potential progression to dementia.

EPIDEMIOLOGY

The prevalence of MCI in those greater than 65 years of age is thought to be around 3% to 22%,[6–8] depending on the demographics of the population studied. The true