Attention-deficit hyperactivity disorder (ADHD) has historically been considered a disorder of childhood and adolescence. However, it is now recognized that ADHD symptoms persist into adulthood in up to 60% of individuals. Some of the cognitive symptoms that characterize ADHD (inability to provide sustained attention or mental effort, difficulty organizing or multi-tasking, forgetfulness) may closely resemble symptoms of prodromal dementia, also often referred to as mild cognitive impairment (MCI), particularly in patients over age 50. In addition to the overlap in cognitive symptoms, adults with ADHD and those with MCI may also share a number of behavioral and psychiatric symptoms, including sleep disturbances, depression, and anxiety. As a result, both syndromes may be difficult to distinguish clinically in older patients, particularly those who present to memory clinics with subjective cognitive complaints and fear the onset of a neurodegenerative process: is it ADHD, MCI, or both? Currently, it is unclear whether ADHD is associated with incipient dementia or is being misdiagnosed as MCI due to symptom overlap, as there exist data supporting either possibility. Here, we aim to elucidate this issue by outlining three hypothetical ways in which ADHD and MCI might relate to each other, providing an overview of the evidence relevant to each hypothesis, and delineating areas for future research. This is a question of considerable importance, with implications for improved diagnostic specificity of early dementia, improved accuracy of disease prevalence estimates, and better identification of individuals for targeted treatment.