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The Subtle Onset: Understanding Early MCI AD

Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

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Dr. Sabbagh:

This is CME on ReachMD and I'm Dr. Marwan Noel Sabbagh. Today we're going to talk about understanding early mild cognitive impairment due to Alzheimer's symptoms.

So, it's important to understand there is an ICD-9 construct, and it actually has an ICD-10 construct, of mild cognitive impairment. Mild cognitive impairment is a categorical definition suggesting that it means it has a specific definition of cognitive impairment without associated functional impairment. I'm going to say this several times; that means cognitive impairment with retained independence is mild cognitive impairment. But understand that mild cognitive impairment is a categorical definition. In other words, it is due to something. So, when you say mild cognitive impairment, it just means you're not bad enough to be dementia, but you should go on to say what is the cause? Alzheimer's, Lewy body, stroke, normal pressure hydrocephalus, Parkinson's, PPA, etc.

So, the construct is categorical and then syndromic. So, in this case, this this would be categorical definition and, then we would try to identify the syndromic etiology. But the reason this is super important is that the categorical definition of myocardial impairment suggests that many cases, about half, might have Alzheimer pathology, and we can predict over time who is going to progress. The rough estimates are anywhere, on the low end, as 5% up to a high end of 15%, to conversion to Alzheimer's disease/dementia in 5 years, with an estimated 5-year conversion of greater than 50% and more than 90% in your lifetime, if this is mild cognitive impairment due to Alzheimer's disease.

We're going to talk about, what is the factors, or the identifying risk for progression to dementia. But there is a technical definition, which is a memory complaints corroborated by informants without any functional impairment, which is sufficiently objectively demonstrated on testing. And that is the definition. So, this is the recast of the criteria, which is a complaint corroborated by informant objectively demonstrated without functional impairment. That is the technical term for mild cognitive impairment. You should look for other etiologies. And we're now using, of course, biomarkers such as amyloid and Tau, and CSF plasma or PET to identify the patients with Alzheimer pathophysiology. But historically, we've excluded other pathologies as the approach.

So, if we look at mild cognitive impairment due to Alzheimer's disease, we would expect biomarker confirmation with CSF, PET, maybe even plasma. But again, we have subjective reporting, corroborated by informant, objectively demonstrated with the MoCA or mini mental below a certain cut-point. We would expect two standard deviations below the age-adjusted mean on the memory complaints. We would use a functional measure such as a global deterioration scale 3, functional assessment staging scale 3, clinical dimension rating scale of 0.5, and if there's no other cause.

The reason this is all so important that we look at neuro-psych literature and neuropsychological assessment, we would actually identify, if they're amnesic or non-amnesic. So, if you look at this algorithm, you should be able to have your neuropsychologist identify if it's

amnesic, that's the left-hand side. Single domain, it means just memory only. Multi-domain means memory plus language, executive function, etc. We know that the left-hand side, if they progress, progress to Alzheimer's disease more than 90% of the time. And if they're in non-domestic form, meaning they present with something besides memory, they only progress to Alzheimer's disease/dementia about 50% of the time. So, the amnesic versus non-amnesia can predict who's going to progress.

I do want to say that we actually know who has risk factors for progressing. We know that if your memory score is two standard deviations below the mean, or low, your hippocampus is below the 5th percentile, your amyloid is either high on PIP – that's PIP uptake – or low amyloid/high tau on CSF and the APOE4 are all four predictors of progression to dementia.

Thank you for listening.

Announcer:

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