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Released: 06/29/2022

Time needed to complete: 15 minutes

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Q&AD: Answering Your Questions About Early Alzheimer's Detection

Announcer:
Welcome to CME on ReachMD. This activity entitled "Q&AD: Answering Your Questions About Early Alzheimer's Detection" is provided by Forefront Collaborative. and supported by an educational grant from Biogen. Here is your host, Dr. Jennifer Caudle

Dr. Caudle:
Alzheimer's disease, or AD, is a burdensome disease, not only to the health and longevity of individuals living with the disease, but also to their families and to society. Unfortunately, all too often, AD is diagnosed later in the disease course. This leaves out time for earlier psychoeducation about the condition, the disease, and care, implementation of behavioral strategies, and nonpharmacological interventions, care planning to minimize harm, ensuring for future care and financial needs, participation in care and clinical trials, and better fulfillment of desires, as well as establishment of practical and healthy habits and lifestyles, and shoring up of support systems. This leads to inefficient and unnecessary care and higher costs and causes harm to individuals and society.

My name is Dr. Jennifer Caudle, and I'm your host. And with me today is an esteemed faculty panel. Dr. Alireza Atri, who is the Director of the Banner Sun Health Research Institute in Sun City, Arizona, and Dr. Sharon Sha, who is the Associate Vice Chair in Clinical Research in the Department of Neurology, the Co-Director of the Lewy Body Dementia Research Center of Excellence, and a Clinical Associate Professor, all at Stanford University. Welcome everyone.

You can find all of our disclosures on the activity page.

In the first podcast of this two-part series, we discuss the case of a patient who was diagnosed early with mild cognitive impairment, or MCI, due to AD, reviewing the pathobiology of AD, clinical approaches for early detection of suspected cognitive impairment due to AD, as well as current treatment options and treatments under investigation for MCI due to AD. And if you haven't yet listened to this podcast, it is still available, and we hope you'll take the time to listen to it. You can find a link on this activity page, or search Q and AD. That's Q ampersand AD on the website at ReachMD.com.

Today, we'll answer some of the questions that learners submitted related to the first podcast that I mentioned.

Okay, Dr. Atri, in the first podcast, you talked about how important it is to diagnose patients with Alzheimer's disease early. One listener asks, "How early can we begin diagnosis?"

Dr. Atri:
Well, thank you for that question. I think it is an important one. So, I think timely diagnosis is when there's a concern. And I think we can come back to that. But I'd like to kind of review that AD occurs on a pathobiological and clinical spectrum. So that, we've been able to dissociate the disease itself, which, - start occurring 20 to 25 years before individuals show changes or symptoms. And the clinical phase where individual, can have progressive symptoms, and that - those phases can last, 5, 10, 15, even 20 years for some individuals.

But understanding that the first part, the disease pathobiology involves deposition of toxic amyloid species and plaques, in this sense – I mean, milieu where, tangles and hyperphosphorylated tau, as they occur in the medial temporal lobes, they can sort of be, accelerated,

throughoutthe cortex over many years, activating inflammatory pathways, causing cellular, dysregulation, dysfunction of, lysosome, protein degradation, problems with energy metabolism in cells, and ultimately synaptic damage that causes network dysfunction. So that's when ultimately symptoms appear when there's sufficient synaptic and systems dysfunction.

That's different from the symptomatic stages, which according to the NIH, Alzheimer's Association Research Framework now has been reframed into six stages. Nobody wakes up one morning and says, 'Gosh, you know, today I think I'm kind of completely normal, unimpaired, no changes. I'm at stage 1, 2. Well, you know, yesterday I was normal, today I feel subjected cognitive decline.' And the next day saying, 'Gosh, I'm in stage 3, I have mild cognitive impairment," or the next day being on stage 4, having mild dementia. So this is a continuum. And the difficulty is, individuals knowing whether that a change, what is it due to?

So I would say that, generally when individuals have a concern, either for themselves, someone who knows them, or a clinician, that's the time, for, an appropriate, evaluation of behavioral concerns and symptoms, you know, which may be consistent. And if you go through the pathway, then one can decide, based on this person's performance, history, changes, whether this will fall in stage 2, stage 3, or even stage 4.

So, I think, it's important to have actually symptoms and a concern, not for just, prevention. Prevention is important, but it's really for research purposes. And, secondary prevention is in an area of intense active research, where individuals don't have symptoms or changes, but they may have risk factors. And they may even have, biomarkers of AD pathway be present. But at this point that really, falls under research.

Dr. Caudle:
We have another listener wondering about the symptoms that we should be looking for to detect MCI due to AD. For instance, how often are word retrieval problems characteristic of MCI rather than memory changes? Dr. Sha, why don't you answer this one?

Dr. Sha:
Thanks for bringing that up. It's a very common concern among people who come in to see me in the clinic. Oftentimes, people say, 'I'm having trouble remembering names or thinking of the words, does that mean I have Alzheimer's disease? Does that may not have mild cognitive impairment?' And this isolated word retrieval difficulty or word finding difficulty can be quite common as we get older, but also can overlap with neurodegenerative diseases such as Alzheimer's disease, and in that spectrum of mild cognitive impairment.

We should all recognize that word retrieval or word finding difficulties can be impacted by several aspects of cognition, slow processing speed, or executive function, attention, that can impact our ability to think of words. For example, if you had a poor night's sleep last night, such as I did, we might have more difficulty finding the perfect word, in our everyday conversation. And that can happen both in Alzheimer's disease and just normal aging.

We should remember that we should think about the constellation of symptoms and when someone goes in to see a physician and an expert in this area, there's a constellation of symptoms that might make it more suggestive that the word retrieval difficulties are associated with a neurodegenerative disease such as mild cognitive impairment due to an underlying Alzheimer's disease or other types of dementia.

So when we think about things like word retrieval, we may also ask about other aspects of language functions such as semantic knowledge, spelling abilities, grammar function, but we may also think about other aspects of cognition as well, such as memory, attention, executive function, navigational abilities, all of these aspects can help us determine whether someone's word finding difficulty is due to a degenerative disease such as Alzheimer's disease, Lewy Body disease, or other contributing factors, such as sleep apnea, or sleep difficulties, vascular, insult to the brain, medications, alcohol, and mood. So, all of that can play a role.

And then it's important to note that memory problems, although we often associate it with Alzheimer's disease, as a first symptom, but word retrieval, word finding, and other language, symptoms may also be a presenting symptom in Alzheimer's disease and other related dementias as well. For example, there are a constellation of neurodegenerative syndromes such as primary progressive aphasia, where language symptoms are the early symptoms seen in a patient. And again, we would ask about other aspects of language function to help us consider whether that is the diagnosis at play here. And these are much rarer than Alzheimer's disease, although some version of isolated word retrieval can be seen in a form of Alzheimer's disease.

So it's really taking the overall picture and constellation of symptoms that helps us understand whether this is normal aging, or part of a neurodegenerative syndrome.

Dr. Caudle:
Dr. Atri and Dr. Sha, you mentioned in the first podcast, a few tools such as the Montreal Cognitive Assessment, or the MoCA test, that can be used to detect AD early. Can you please provide a bit more information about these tools? How accurate are they? And do you

have a preferred tool?

Dr. Atri:
Yeah, so that's a great question. I think the one important thing is to appreciate that, there is an important role for brief validated cognitive tests when they're done in the process of, a full evaluation. So, they shouldn't be done in isolation. Obviously, there's the history, the domains, the concerns. When it comes to, doing something that is, a brief validated cognitive test, at that point, it becomes, case finding. But there's no one size fits all kind of approach or test.

Multiple tests have been validated against gold standards of clinical and neuropsychological evaluation. They're available. I think it really depends on the proficiency of the clinician as far as what they're comfortable and also fitting it to the profile of the patients. Particularly, I don't think there should be, binary cut-off scores, because every test has its own unique profile, its own sensitive, specificity, strengths, limitations, and, considerations regarding efforts and copyrights and training.

And, so there are several instruments available. I like, the Montreal Cognitive Assessment, the MoCA. There's also the Mini Mental State Examination, the MMSE. There's the SLUMS, which is the St. Louis University Mental Status Exam. There's the Mini-Cog, which is, more brief, and is a combination of three words being learned, the clock draw test, and the recall of those words. But all of them, ~~you know,~~ one has to think about the pros and cons and nuances, in a patient-centered, interpretation, that depends on, for any given patient, what could be the sensitivity, specificity, what are, the age, education, cultural background, of the individuals. So, it absolutely, should be done, it should be part of, an evaluation. But it should be, sort of tailored, I would say.

Dr. Sha:
I completely agree with Dr. Atri. I mean, these, measures are really helpful in giving a gross estimate of the severity of cognitive impairment in an individual. But using this test alone can't give us the diagnosis. It can help us sort of interpret it and, give an overall picture, of a potential diagnosis and idea of level of impairment.

And as Dr. Atri mentioned earlier, when used in conjunction with the appropriate clinical symptoms, imaging, biomarkers, formal neuropsychological testing where appropriate, then this screening cognitive measure can be really helpful in aiding in a clinical diagnosis.

In my practice, I often use the Montreal Cognitive Assessment, as we like to call the MoCA. I find it's really, helpful in, assessing a broad spectrum of cognitive function, including executive function, attention, language, memory, orientation, visual spatial function. It takes approximately 8 to 12 minutes to administer, has good psychometric properties, has acceptable sensitivity to detection of mild cognitive impairment. It was designed to test for mild cognitive impairment. It's available in several forms in English and in several languages. And for that reason, it's my preferred, choice in the clinical setting.

Dr. Atri:
Yeah, I would completely agree. Certainly my choice also. And I think you can get a tremendous amount of information from the MoCA. Actually, if you look at the different indices, for example, there's a memory index and a language index and the executive functions. you can actually line those up with, the patient's, potential concerns or changes. So, I think it's actually a very good, place to start. And, for all the reasons Dr. Sha mentioned.

Dr. Caudle:
Dr. Atri and Dr. Sha, what is the biggest challenge you face for early diagnosis? And how do you overcome this challenge? Dr. Sha, why don't you go first?

Dr. Sha:
Well, I find personally that, the patients that come to me to seek out early diagnosis are ones that have had education about dementia, about neurodegenerative disease. A generation ago, dementia was considered part of normal aging. The education that has arisen, in these past decades has really helped support the notion that seeking out clinical care, diagnosis can really help understand not only a diagnosis, but future planning. That education has, really facilitated planning for not only medications and treatments, but also facilitate the discussion that a healthy lifestyle can really support, appropriate brain health. And there's a lot more data and research that has supported that things like exercise, a healthy diet, intellectual stimulation, and good sleep, can help potentially slow down, a degenerative disease and potentially help keep a brain healthy if you're already healthy. So, the early, education for not only older adults, but everyone throughout their lifecycle has helped facilitate, family members to bring in their loved one to seek out clinical care.

And then finally, you know, it seems like the difficulties to limit the education, and access, in addition to social constraints, such as people who, are working and cannot get access to care, because they can't bring their family member in to, get an evaluation, or they live far from an expert, or neurologist. But essentially, education and outreach into communities and other individuals and care providers

has helped facilitate early diagnosis.

Dr. Atri:
I completely agree with you, Dr. Sha. I think it's really, an imperative. Patients and families generally, when asked the question, 'Do you want to know?', they do. But all too often, cognitive behavioral symptoms, due to AD - and AD already go undiagnosed, they're undisclosed or misattributed. I think that's a big challenge.

And, you know, delays, in diagnosis and, accurate diagnosis and proper disclosure, causes distress to patients and families, it's costly, it's, potentially harmful.

That is a challenge, to have patients and families and also clinicians appreciate to prioritize the importance of evaluating concerns. That ultimately, the data and information is empowering, increases autonomy, justice, and ultimately it improves patient-centered outcomes. So that's, a major challenge, but it's also a great opportunity.

Dr. Caudle:
Thank you, Dr. Atri. And that concludes today's discussion. I'd like to thank Dr. Atri and Dr. Sha for joining me today to share their clinical expertise and insights. I also want to thank the learners in our audience who made this education possible by submitting questions. We hope you now have a few additional tools to take away from this podcast that will assist you in detecting Alzheimer's disease earlier. To receive your free CME credit or to download this activity, just go to reachmd.com/cme. This is CME on ReachMD. Be part of the knowledge. Thank you for listening and have a great rest of your day.

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