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Latest Methods to Early Detection for Alzheimer's: Cognitive Assessments and Diagnostic Tools in Practice

Opening Announcer:

You're listening to ReachMD. Uncover the truth about Alzheimer's in this special series, Alzheimer's Disease: Towards Earlier Detection.

Dr. Caudle:

Self-assessment tests to help detect early signs of dementia may catch lapses in thinking abilities that may not come out in routine questioning, or that patients may not notice themselves, but what methods are most effective at helping us reach a diagnosis for Alzheimer's? I'm Dr. Jennifer Caudle, and joining me today is Dr. Douglas Scharre, Professor of Clinical Neurology and Psychiatry and the Director of the Center for Cognitive and Memory Disorders at The Ohio State University Wexner Medical Center.

Dr. Scharre, welcome to ReachMD.

Dr. Scharre:

Well thank you very much, glad to be here.

Dr. Caudle:

There has been a strong push to diagnose Alzheimer's disease in its earliest stages. Why is early detection so important?

Dr. Scharre:

Well, the primary reason is that we're finding that the treatments work better the earlier you start them. Even the treatments we have right now for Alzheimer's disease—cholinesterase inhibitors and NMDA antagonists—they all seem to do better if the patient is started earlier in the course of their disease. So, one of the importance of early detection would be getting people treated earlier. The other big thing, even if you're not talking about a particular treatment, and it could be in any dementia, for that matter, would be that if you identify someone very early, you know that it could lead to caregivers knowing about it and increased supervision. An increased supervision of individuals can often reduce many errors or difficulties that patients can get into early on in the disease. Maybe they're messing up with their finances, maybe they're being shammed by someone who's taking advantage of them, maybe the caregivers would be looking at their driving, making sure that they're safe. An important aspect is identifying people with early cognitive issues. Let me take a look at mom's medications and make sure that she's taking them correctly; is she ordering them correctly; did she miss a medication? Reporting symptoms to doctors, getting in to see doctors, not forgetting doctor's appointment. As all of you know that as you get older, you accumulate more and more chronic medical conditions, and if you're not so compliant with medications or diet or exercise or any number of things that improve these chronic medical conditions, if you're not compliant because of your cognitive issues, your memory loss, then you're going to have more complications of your chronic medical conditions, and that could mean more doctor visits, it could mean more ER visits, it could mean more hospital admissions, you run out of a medication, you have some issue. In general, just supervising an individual with early cognitive issues could potentially save billions of healthcare dollars and presumably lead to better quality of life for patients and families.

Dr. Caudle:

Wonderful. What are some of the barriers clinicians face with early identification of Alzheimer's?

Dr. Scharre:

There's lots of barriers to early identification. One of the main ones, people with Alzheimer's disease, in particular, typically have impaired insight, so they may ask the same question 3 or 4 times and it's as if they asked it for the first time each time they're asking it, and the other person may be polite and not point out that, "You've already asked me that." So, they have this impaired insight; they

don't pick up that they have as much problems as usually a significant other or a spouse or a family member will see. And also, it's embarrassing to have brain problems, so a lot of patients just don't report to their doctor. They think, "Gosh, everyone has memory problems as they're getting older, this doctor's very busy, why should I take his or her time up to report something that I think everyone is getting because they're just mild symptoms?" And it's also embarrassing. I've always prided myself on having a good brain and sort of telling on yourself that your brain's not working well can be embarrassing to some. And so, because of that, we know from the literature that patients and/or even families don't report cognitive symptoms to their primary care doctor for probably an average of 3½ years after some cognitive symptoms started that the family would say, "Yeah, this is very different for him or her." They forgot something or made a wrong turn or got lost, something of that nature. And then, if the physicians aren't being cued, "I have memory problems, I'm having trouble with thinking or word-finding," they often aren't just going to do a routine cognitive test to evaluate it if they're not being prompted, and if the patient says, "Well, you know doc, my memory's okay," that may not prompt the doctor to really investigate and ask more questions about cognitive issues. The other issue with barriers to identification, there's little reimbursement for the short cognitive screen, so it's sort of an extra burden on doctors, on medical assistants or nurses to provide these tools to give the cognitive screens, for example. So, it takes up time and personnel resources. So all of these things all lead to reasons why early identification is not often obtained.

Dr. Caudle:

Well, if you're just tuning in, you're listening to *Alzheimer's Disease: Towards Earlier Detection*. I'm your host, Dr. Jennifer Caudle, and I'm speaking with Dr. Douglas Scharre, professor of clinical neurology and psychiatry at The Ohio State University. Now, there are various detection methods and assessment tools in the diagnosis of Alzheimer's disease. Can you talk about some of the methods for early detection that you prefer in your practice?

Dr. Scharre:

Well, for Alzheimer's disease, we know it's a disease of amyloid and tau increase in brain, and so there are specific ways we can measure that, that seem to indicate that an amyloid disease such as Alzheimer's is occurring. So there's spinal fluid tests; we all know you can test amyloid and tau in spinal fluid. Issues with spinal fluid tests is it is expensive and certainly has some invasiveness to it. Although they're very fairly well-tolerated, there may be some people on blood thinners that you would not do an LP on. Neuroimaging, again, there is now PET, as you know, neuroimaging of amyloid markers, there's FDG PET to try to help differentiate maybe frontotemporal dementias from Alzheimer's. Again, these are very expensive tests. Some of the PET imaging, of course, have a radiation exposure that could be a safety issue. So, these are tests that, for the most part, even though they can pick up Alzheimer's very early, usually we need to sort of reserve them until we have some sort of hint or indication that maybe there is a chance for Alzheimer's disease, and typically, in this day and age, we're typically using cognitive assessments, so screening cognitive complaints. So, if someone comes in with a cognitive complaint or a family member says mom or dad or spouse is doing worse than they used to, in terms of their memory, maybe word-finding, maybe sense of direction, typically in our clinic setting, we will start out with the more inexpensive tools, and that would be brief cognitive assessment tools to decide, are they thinking well and do they need, maybe, further evaluation with some of these more expensive tests if we really want to find out how likely Alzheimer's is versus maybe another condition?

Dr. Caudle:

What mimicker diseases do we need to rule out with these assessment and detection methods?

Dr. Scharre:

So, there's lots of things that we typically do when we diagnose someone with cognitive disorder or Alzheimer's disease. The first thing is, we want to make sure that's what it is and we rule out other conditions, typically by doing blood tests. These are typically for B12 and thyroid, sometimes we look at inflammatory markers. Neuroimaging, obviously we're checking a CAT scan or an MRI scan for a small vessel disease, strokes, cysts, tumors, those types of things. In the history, of course, it is very important to rule out significant mood disorders, medication use. I'm often taking people off medications constantly that could affect cognition, and many times their cognition can clear up. So, other substance abuse or medications that cause toxic or cognitive impairment are some things that we have to obviously look at. And then, the next big thing is the physical exam, and on physical exam, of course, you're looking for Parkinsonian-type conditions. You would be looking for maybe normal pressure hydrocephalus tremors, abnormal movements that could suggest other conditions other than Alzheimer's disease. Most Alzheimer's patients, as you know, have fairly normal gaits and balance and not a lot of movement impairments. And then, finally, what really helps to try to look at Alzheimer's disease is the cognitive testing, and there is many different, brief cognitive assessment tools that could be used. And the purpose of these is really to see a pattern that would be suggestive of Alzheimer's disease so that if individuals have impairments in memory, suggesting mesial, temporal, hippocampal area impairments, that's often seen very early on with Alzheimer's disease, whereas if it's more of a language disturbance and no memory problems, perhaps that pattern you'd think more of a primary progressive aphasia, for example, that could be starting, or a

frontotemporal dementia. And there are lots of advantages and disadvantages of these cognitive tools. The one I use the most in our clinic are self-administered tests, such as the SAGE, which I helped develop. That one does not require a caregiver or a nurse or a medical assistant to give it, they can just be on their own to take the test. You can get a baseline if they take it earlier in their earlier years, for example, and you can compare over time. Any of the cognitive tools that are used are excellent, though. There's the MoCA, there's the SLUMS and mini-mental state. Some of them are now charging for use of them, others are free. Informant-based tools, such as the AD8, are also very useful. There is little quick tools, such as a memory impairment screen or the mini-cog. These are testing more single-domain areas as opposed to some more multi-domain areas. All of them may have advantages and disadvantages, depending on your clinic setting, but they're very helpful if you look at the pattern of deficits that would help you say, yes, this looks more like an Alzheimer pattern than, perhaps, a different demented condition or maybe a delirium or something of that nature, a depression issue. And then, based on those, you can decide whether it's important to do a spinal fluid test or PET studies to further refine your diagnosis.

Dr. Caudle:

Well, many thanks to our guest, Dr. Douglas Scharre, for joining us today.

Dr. Scharre:

Thank you very much.

Closing Announcer:

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