Early Detection of Alzheimer's Disease

Irving Kuo, MD
NARFE Region V Alzheimer's Coordinator

Early diagnosis of Alzheimer's Disease allows for increased treatment options and the possibility of slowing the progression of the illness. Two recently approved medications (lecanemab and donanemab) have been shown to be useful in slowing the progression of the illness but are only administered in the early stages of Alzheimer's. So, what are the tests that can help confirm the diagnosis?

There are currently 2 gold standard tests that are FDA approved and are covered by Medicare and other private insurance:

1) Amyloid Positron Emission Tomography (PET) scan can detect the presence and density of amyloid in the brain.
2) Cerebrospinal Fluid (CSF) test collected via a lumbar puncture (or spinal tap) can be tested to help confirm the diagnosis

However, PET scans are not universally available, especially outside of urban settings. They are expensive. They require laying down in a narrow tube for 30 minutes and can be difficult for individuals with claustrophobia. They also require that a radioactive isotope be injected.

Likewise, lumbar punctures also have their limitations. People who have had spine surgery or congenital spinal abnormalities may not be able to receive one. The idea of having a needle placed in the spine, although usually a very safe procedure, can cause anxiety. Headaches, nausea and vomiting and back pain can occur after the procedure.

Recently, blood biomarkers have been developed which can detect amyloid and tau in the brain. Two have ben FDA approved (Lumipulse G pTau217/ß-Amyloid 1-42 Plasma Ratio and Elecsys pTau181 plasma test), although they currently are not covered by Medicare or insurance. They do have the advantage of being obtained by a simple blood draw and thus should be much more widely available. They also should be less expensive than PET scans or lumbar punctures.

While not confirmatory, genetic testing has also been utilized to identify individuals with an increased risk for developing Alzheimer's. These tests do not guarantee that the person will get the disease. Testing for APOE-4 appears to be the strongest risk gene in some populations and can be useful in identifying vulnerability.