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Mount Sinai is first in New York state to perform new Alzheimer's imaging test in clinical setting

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The Mount Sinai Medical Center is the first institution in New York State to use in the clinical setting a newly approved imaging technique to detect Alzheimer's disease (AD) in people who are cognitively impaired. Until now, physicians have been limited in their ability to diagnose AD, guided almost exclusively by a patient's mental and behavioral symptoms and family history. The innovative technique—recently approved by the U.S. Food and Drug Administration (FDA), is not only expected to play a critical role in the diagnosis of AD, but in drug research, and the design of clinical trials leading to a cure.

Under the new procedure, patients are injected with a radioactive agent called florbetapir, which binds to the plaques that are hallmark symptoms of AD. The physician then uses a positron emission tomography (PET) scan to highlight the plaques that are binded to the agent. If a large amount of florbetapir is visualized on the image, the patient may have AD. If no plaques are found, this could eliminate AD as a possible cause of the patient's cognitive impairment.

"Until now, a diagnosis of Alzheimer's disease could only be pathologically confirmed at autopsy," said Samuel Gandy, MD, Professor of Neurology and Psychiatry and Director of the Mount Sinai Center for Cognitive Health and NFL Neurological Center at The Mount Sinai Medical Center. "Coupled with traditional clinical examination, florbetapir is a promising tool in helping confirm the diagnosis of a

patient who is dealing with cognitive impairment. While we cannot exclude the presence of very low levels of amyloid, a negative test means that a memory problem is likely due to some other cause."

Alzheimer's disease is one of several possible causes of cognitive decline. Symptoms may overlap with other causes of cognitive impairment including memory loss; loss in visuospatial ability and executive function; and behavioral and language difficulties. The imaging technique will be used as an adjunctive tool with traditional methods of diagnosis to help determine if these symptoms are related to AD and if not, eliminate it as a likely cause of them.

"The approval of this agent by the FDA for PET imaging of the brain, already available at The Mount Sinai Medical Center, marks a significant advance in the evaluation of patients suspected of having or being at risk for Alzheimer's Disease," said Josef Machac, MD, Director of Nuclear Medicine and Professor of Radiology at The Mount Sinai Medical Center. "The principal value of this procedure at this time is in excluding beta-amyloid and Alzheimer's disease as cause for memory or cognitive decline. This can help in patient management, and in clinical trials of investigational therapies to find more effective treatment."

Florbetapir is anticipated to be most useful in the research setting, providing scientists with a tool for measuring the efficacy of certain drugs on patients who present with cognitive impairment or AD. The scan will help determine which patients are appropriate for which trials, which drugs are effective and for what duration, and provide a better assessment for disease progression.

"From a research perspective, this imaging technique is a major advance that will propel us forward in designing clinical trials and determining drug efficacy for this debilitating disease," said Dr. Gandy. "I look forward to using it both in my clinical practice to help diagnose my

patients, and in my research on the quest for a cure for Alzheimer's disease."

Provided by The Mount Sinai Hospital