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Study Focuses on an Alternative Diagnosis to Alzheimer's Disease

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Here's a terrible thought: What if an elderly loved one was confined to a nursing home because a doctor assumed he had Alzheimer's, but he didn't have the disease at all? Worse, what if his condition could be helped and his life restored, and no one knew it?

It is estimated that 250,000 Americans over the age of 65 may have been misdiagnosed with Alzheimer's disease, and perhaps Parkinson's disease, when in fact they have a treatable condition known as normal pressure hydrocephalus, or NPH.

Now, Dr. Marvin Bergsneider, associate professor-in-residence in the UCLA Division of Neurosurgery, has been awarded a $1 million grant from the National Institutes of Health to further investigate what causes the condition and to develop treatments that lower risks and improve results. The UCLA study, which is funded for four years, will begin in February.

NPH is a relatively new disorder, first recognized in 1965. It is not well-known among the public and, more importantly, is often overlooked by physicians, said Bergsneider, who directs UCLA's Adult Hydrocephalus Program, which has treated more than 500 NPH patients over the past 12 years.

Hydrocephalus is a condition in the brain characterized by an abnormal buildup of cerebrospinal fluid. Residing within spaces both inside and surrounding the brain, cerebrospinal fluid's normal function is to provide

a cushion that protects the brain from injury. Recently, it has been found that movement of this fluid is also critical for the maintenance of adequate blood flow to the brain. But if something occurs that interferes with its free movement, the fluid can accumulate in cavities called ventricles. As a result, these ventricles may expand like balloons, stretching and damaging surrounding brain tissue.

In the elderly, this can cause difficulty walking (an unsteady and/or shuffling gait), poor bladder control (urgency and/or incontinence) and short-term memory loss. But because all of these symptoms are relatively common in the elderly population, a diagnosis of NPH is often not considered.

"Many people see these problems in the elderly," Bergsneider said, "and just say, 'Well, they're old.' "

In cases involving more advanced symptoms of NPH, the condition may be frequently mistaken for better-known and more common disorders, including Alzheimer's and Parkinson's. While the clinical triad of gait disturbance, poor bladder control and memory loss represents the hallmark findings for a diagnosis of NPH, the key test missing in most misdiagnosed cases, said Bergsneider, is an MRI or CT scan of the brain, which is not routinely performed. The enlargement of the ventricles typical of NPH is easy to identify with either of these imaging tools, and it is often the radiologist who raises the possibility of NPH.

Treatment is available for those suffering from NPH. A shunt is surgically inserted in the brain to drain the cerebrospinal fluid to another part of the body, typically the abdominal cavity. Over the last decade, technological advances have significantly lowered the risks associated with shunt operations. Tremendous improvement is seen in some who undergo the procedure. A patient who is unable to walk or control his bladder and who may appear severely demented can be brought back to

an independent life following the insertion of a shunt. If untreated, the opposite can occur, with deterioration progressing until the person must be confined to a nursing home for full care.

Bergsneider's UCLA study will involve a shunt-insertion clinical trial. Eligibility for the trial begins with having the clinical triad of NPH symptoms: shuffling gait, poor bladder control and memory problems. Next, brain imaging — either an MRI or CT scan — must reveal enlarged ventricles. For patients who meet these criteria, Bergsneider will perform additional confirmatory testing. Those who meet the clinical criteria and pass a supplemental test will then be considered as candidates.

Source: UCLA