

# Cerebrospinal fluid shows Alzheimer's disease deterioration much earlier

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It is possible to determine which patients run a high risk of developing Alzheimer's disease and the dementia associated with it, even in patients with minimal memory impairment. This has been shown by recent research at the Sahlgrenska Academy, University of Gothenburg, Sweden.

The results have been published in the most recent issue of the prestigious medical journal *Lancet Neurology*.

"The earlier we can catch [Alzheimer's disease](#), the more we can do for the patient. The disease is one that progresses slowly, and the pharmaceuticals that are currently available are only able to alleviate the symptoms", says Kaj Blennow, professor at the Sahlgrenska Academy, and a world-leading researcher in the field.

Several biomarkers have been identified in recent years. Biomarkers are proteins that can be detected in the cerebrospinal fluid and used to diagnose Alzheimer's disease. It is now clear that the typical pattern of biomarkers known as the "CSF AD profile" can be seen in the cerebrospinal fluid of patients even with very mild memory deficiencies, before these can be detected by other tests.

"The patients who had the typical changes in biomarker profile of the cerebrospinal fluid had a risk of deterioration that was 27 times higher than the control group. We could also see that all patients with mild cognitive impairment who deteriorated and developed Alzheimer's

disease had these changes in the biomarker profile of their cerebrospinal fluid", says Kaj Blennow.

The scientists were also able to show a relationship between the profile of biomarkers and other typical signs of the disease, such as the presence of the gene APOE e4 and atrophy of the hippocampus, which is the part of the brain cortex that controls memory.

"Our discovery that an analysis of [biomarkers](#) in the [cerebrospinal fluid](#) can reveal Alzheimer's disease at a very early stage will have major significance if the new type of pharmaceutical that can directly slow the progression of the disease proves to have a clinical effect. It is important in this case to start treatment before the changes in the brain have become too severe", says Kaj Blennow.

Source: University of Gothenburg ([news](#) : [web](#))

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