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More accurate diagnosis of Alzheimer's

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A new study from the University of Gothenburg, Sweden, shows how analysing spinal fluid can help to detect Alzheimer's disease at an early stage. The researchers behind the study hope that their findings will contribute to a greater international breakthrough for this type of diagnostic method.

It all comes down to biomarkers, substances that are found at abnormally high or low levels in patients who go on to develop Alzheimer's. The most common biomarkers to be identified by the researchers in the spinal fluid of patients with Alzheimer's are proteins and peptides – short chains of amino acids.

"What's new about our study is that the biomarkers are really good, better than in the past, as the study was carried out extremely carefully with suitable participants via clinical trials and well implemented and controlled laboratory analyses," says docent Johan Svensson, who is working with professor Kaj Blennow's research group at the Sahlgrenska Academy, which has long been involved in researching the development of these biomarkers and advocating their use.

A total of 60 patients who were being investigated for dementia took part in the study, along with 20 healthy controls.

"We measured levels of the biomarkers in the spinal fluid and found that high levels of these substances confirmed the diagnosis of Alzheimer's with a high degree of accuracy compared with levels in healthy controls and patients with other forms of dementia," says Svensson.

"We also saw that patients who hadn't yet met all the clinical criteria for Alzheimer's had similar levels of the biomarkers in their spinal fluid to patients who had developed the disease fully."

The research group therefore concludes that these measurements can also be used to identify Alzheimer's during the early stages of the disease. In such cases, the biomarkers can be used to identify those patients with mild symptoms who are most likely to benefit from treatment.

"If a medication that affects the course of the disease does become available, it will probably be most effective during the early stages, and these biomarkers could be used in the development of such a medication," says Svensson.

The study will be published in the *Journal of* Alzheimer's Disease.

Provided by University of Gothenburg

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