Hôpitaux Universitaires Genève

UNIVERSITÉ DE GENÈVE

Rue Gabrielle-Perret-Gentil 4
CH – 1211 Geneva 14

PRESS RELEASE

Geneva, 15 January 2024

EUROPEAN CONSENSUS FOR THE DIAGNOSIS OF ALZHEIMER'S DISEASE

A multidisciplinary working group of 22 experts from eleven European scientific associations have joined forces to define recommendations for the effective and individualized use of biomarkers[1] for the diagnosis of Alzheimer's disease in memory clinics. Putting patients, instead of the disease or a test, at the center of doctors' diagnostic considerations constitutes a turning point in the approaches currently applied. This work has been coordinated by a team from the University Hospital of Geneva (HUG), the University of Geneva (UNIGE) and the Fatebenefratelli of Brescia National Research Center for Alzheimer's Disease (IRCCS). The consensus is published in The Lancet Neurology.

Individualized diagnostic pathway

Experts from eleven European scientific associations and organizations and a patient advocacy association (Alzheimer Europe) have collaborated to define a diagnostic pathway focused on each individual case which enables the right tests to be identified according to the symptoms profile. The pathway is easy to use in memory clinics and enables a highly reliable diagnosis to be made.

This diagnostic pathway has been developed on the basis of the scientific literature and from the practical experience of the specialists. After having examined the individual's complaints, performed memory tests and conducted a brain MRI, the specialist can now take advantage of these recommendations to classify the case into one of the eleven defined phenotypes, then look for biomarkers using the tests recommended by the international experts, namely lumbar puncture, amyloid PET, glucose PET, ioflupane SPECT, MIBG SPECT and tau PET.

Moving beyond the biomarker-centric approach

The objective of the diagnostic pathway is to overcome the current limitations of the recommendations and guidance related to the diagnosis of Alzheimer's disease. The latter focus mainly on the disease itself or on biomarkers, rather than on the person affected. Although they have been developed to help clinicians use the correct diagnostic tests, they reveal gaps when applied in clinical practice. Indeed, most of these recommendations do not take account of the many diagnostic options available nor of the existence of several tests that can be carried out simultaneously or sequentially. Moreover, those that do take these into account often only reflect the opinion of non-representative expert groups. As a result, in clinical practice biomarker choice is often influenced more by organizational and logistical considerations than by clinical factors.

[1] A diagnostic biomarker is a measurable biological characteristic linked to a disease. Biomarkers of neurodegenerative diseases are cerebral atrophy, cortical hypometabolism and the reduction of dopaminergic or adrenergic receptors. The specific biomarkers of Alzheimer's disease are amyloid and tau proteins. Tests that measure biomarkers are lumbar puncture, PET, MRI and SPECT.

Hôpitaux Universitaires Genève

UNIVERSITÉ DE GENÈVE

Rue Gabrielle-Perret-Gentil 4
CH – 1211 Geneva 14

“The diagnostic pathway we have developed will help clinicians define the most informative biomarker in the most frequent clinical case scenarios. It will promote consistency in the diagnosis of neurocognitive disorders in European countries, reduce the cost of analyses and identify those eligible for treatments with more precision,” explains Prof. Giovanni Frisoni, head of the HUG Memory Center, Professor of Clinical Neuroscience at the University of Geneva and first author of the study.

Consensual method

To reach this consensus the 22 experts used the Delphi participatory approach to compare the difference in effectiveness of one test compared to another in various situations. This approach consists of measuring the specialists’ opinion on the characteristics studied in order to retain only those opinions that achieve a consensus of over 70% and therefore considered highly probable.

Next steps

This pooling of expertise has enabled a reference standard to be established that will be useful to all doctors in Europe. It will now be incumbent on national services, healthcare providers, medical officials and insurance companies to implement it in each country.

As far as the study is concerned, the next step will be to integrate blood biomarkers into the decision tree. These are only available currently within the remit of research and are in the process of being approved for clinical use. In future they will avoid up to 70% of invasive tests such as lumbar punctures and PETs, helping to reduce costs and expand diagnoses in the general population.

Turning point in the treatment of Alzheimer's disease

In the United States the first anti-amyloid drug was approved by the Food and Drug Administration (FDA) in 2021 followed by a second in 2023. These drug types will be introduced in Europe in 2024. The arrival on the market of the first drugs for specific forms of Alzheimer's disease will now require the existence of a consensual, precise and easy-to-apply diagnostic pathway. Indeed, these expensive disease-modifying treatments can only be prescribed at the cost of increasingly accurate diagnoses.

Explosion in cases of Alzheimer’s disease in Switzerland

In Switzerland the number of people affected by Alzheimer's disease or another form of dementia is expected to reach 315,400 by 2050, up from 153,000 in 2023 according to Alzheimer Switzerland. It is the most common form of dementia in older people, although it can also affect younger individuals. Characteristics of Alzheimer's disease include the formation of beta-amyloid protein plaques and neurofibrillary degeneration in the brain, resulting in the progressive death of brain cells. Over time the disease progresses from mild forgetfulness to impaired cognitive functions, memory and the ability to perform everyday tasks. These symptoms are easily confused with those of other neurocognitive disorders.

More information on https://www.thelancet.com/podcasts

DOI : https://doi.org/10.1016/S1474-4422(23)00447-7

Hôpitaux Universitaires Genève

UNIVERSITÉ DE GENÈVE

Rue Gabrielle-Perret-Gentil 4
CH – 1211 Geneva 14

For further information

HUG, Press and Public Relations Department
presse-hug@hug.ch
+41 22 372 37 37

UNIGE, Media Service
media@unige.ch
+41 22 379 77 96

The HUG: cutting-edge care, teaching and research
The University Hospitals of Geneva (HUG) comprise eight public hospitals and two clinics. Their missions are to provide care to the community in all medical specialities, to help train doctors and healthcare staff, and to carry out medical and healthcare research. The HUG is a national reference centre for influenza, emerging viral infections, meningococcus, transplant immunology and the national reference laboratory for histocompatibility. They are WHO collaborating centres in six areas and centres of excellence in several sectors. The HUG treats 275,000 people a year, has 2,015 hospital beds and employs 12,800 staff.
More information on publications-hug

www.hug.ch - presse-hug@hug.ch

About the University of Geneva
The University of Geneva (UNIGE) now ranks among the top 100 universities in the world. Founded in 1559 by Jean Calvin and Théodore de Bèze, it welcomes more than 19,000 students in its nine faculties and thirteen centres. interfaculty. Internationally recognised for the quality of its research, it is also a member of the Ligue of European Research Universities (LERU), and is constantly strengthening its links with the European and non-governmental organisations present in Geneva, one of the world capitals of multilateralism.

UNIGE has three missions: teaching, research and community service. www.unige.ch