NHS
Mersey Care
NHS Foundation Trust

29 April 2025

Studies

Clinical phenotypes of Alzheimer's disease: investigating atrophy patterns and their pathological correlates

For both clinical phenotypes, cortical volume is affected by Aβ and neuro-axonal damage, but in opposing directions. Differences in volume-pathology relationships between clinical phenotypes are region-specific. The findings of this study could improve the interpretation of MRI datasets in heterogenous AD cohorts, both in research and clinical settings.

Sex differences in clinical phenotypes of behavioral variant frontotemporal dementia

Females with sporadic bvFTD showed worse compulsive behavior (p = 0.026) and language impairments (p = 0.024) compared to females with genetic bvFTD (n = 152). Genetic bvFTD females had smaller gray matter volumes than sporadic bvFTD females, particularly in the parietal lobe.

Sex differences in the executive and behavioral reserve of autosomal dominant frontotemporal dementia

Symptomatic females with genetic FTD had lower frontal cortical thickness than males, and the C9orf72 subgroup showed lower-than-expected frontal cortical thickness for a given level of executive functioning. Differences in cognitive reserve between sexes peaked near symptom onset but diminished thereafter.

Sex differences in the clinical manifestation of autosomal dominant frontotemporal dementia

Our study reveals sex differences in the progression of autosomal dominant FTD. We observed that females initially function better than expected based on their level of neurofilament light chain (NfL), but subsequently experience an accelerated decline in cognitive and functional abilities during later stages of the disease. This pattern may indicate "resilience" against neurodegeneration in females, but it also highlights the limited predictive value of NfL in the early stages of FTD for this group. In contrast, NfL appears to be a more sensitive indicator of disease progression in males.

Plasma p-tau212 as a biomarker of sporadic and Down syndrome Alzheimer's disease

We have confirmed that the levels of plasma p-tau212 are increased in the DS population and sporadic AD cases, including prodromal and mild cognitive impairment states. Plasma p-tau212 started increasing approximately when people became amyloid positron emission tomography positive.

Examining the association between sleep apnea and total hippocampal volumes in cognitive impairment

Our study demonstrated that obstructive sleep apnea (OSA) was significantly associated with a decrease in hippocampal volumes, specifically in individuals with cognitive impairment due to NVM etiology. This supports the theory that individuals with cognitive impairment experience underlying neurodegenerative processes, which heighten their susceptibility to the adverse effects of OSA. These findings underscore the importance of considering OSA as a potential modifiable risk factor in vulnerable populations. Recognizing the importance of OSA in this cohort, it is evident that the introduction of both targeted screening and treatment interventions may not only mitigate cognitive decline but also potentially preserve hippocampal integrity.

NHS
Mersey Care
NHS Foundation Trust

29 April 2025

[Diverging cognitive benefits from education between rural and urban middle-aged and older adults in the USA]
Rural setting and lower education were associated with higher odds of subjective cognitive decline (SCD), but higher education was protective for only urban residents. These results indicate that higher education may be a gateway for more opportunities and resources in urban settings, with cascading impacts on cognition. Future research should examine reasons for the diverging cognitive benefits from education depending on rural–urban residence.

[Cost-effectiveness analysis of aducanumab versus placebo for patients with mild cognitive impairment and mild Alzheimer's disease]
Even with the updated price being half of the original, aducanumab is still not cost-effective, underscoring the need for affordable, evidence-based AD treatments. (NB the cost - effectiveness analysis is based on US healthcare system).

News

[Alzheimer's Society partners with Coronation Street to create bespoke ads in tribute to dementia storyline]
Alzheimer's Society has teamed up with ITV and Coronation Street in order to shine a light on the growing impact of dementia across the UK. Created in partnership with Medialab and ITV Creative, the campaign features four bespoke linear spots which compliment a storyline about beloved Coronation Street character Debbie Webster being diagnosed with dementia.

[Help to reduce high blood pressure lowers dementia risk, study finds]
People given intensive help to reduce their high blood pressure such as medication and coaching have a lower risk of dementia, researchers have found.

[Older people who use smartphones 'have lower rates of cognitive decline']
Fears that smartphones, tablets and other devices could drive dementia in later life have been challenged by research that found lower rates of cognitive decline in older people who used the technology. An analysis of published studies that looked at technology use and mental skills in more than 400,000 older adults found that over-50s who routinely used digital devices had lower rates of cognitive decline than those who used them less.

[The power of knowing – giving people clearer answers about life after diagnosis]
Understanding how someone's symptoms will progress will be really important if we're to cure dementia. It's what makes the work of Dr Timothy Rittman so exciting. He's an Alzheimer's Research UK Senior Research Fellow, and an Honorary Consultant Neurologist working in the Memory Clinic at Addenbrooke's Hospital in Cambridge. Here, he talks to us about prognosis and how science might be able to predict the course of dementia after a diagnosis.

[European Commission approves first disease-modifying treatment for Alzheimer's disease in the EU]
The European Commission has approved the use of lecanemab in the treatment of early Alzheimer's disease, the first disease-modifying therapy for Alzheimer's disease to be made available in the EU27 and EEA Member States.

Mersey Care
NHS Foundation Trust

29 April 2025

[Scientists find clues as to why new drugs are effective for Alzheimer's]
Lecanemab prefers to bind to a certain size of toxic protein found in people with early-stage Alzheimer's, [new research] led by Prof Sir David Klenerman (UK DRI at Cambridge) reveals.

[Researchers, developers, engineers, and professionals work together in Dementia Networks]
Researchers at Imperial College London are to develop technologies to enable people with dementia to live independently for longer. The 'ZeDTech' dementia network, developing zero burden and sustainable technologies to support independent living with dementia, aims to bring together teams of researchers, developers, engineers, and health and social care professionals.

[Designers, developers, and dementia experts to create user-friendly assistive technologies]
Researchers at Northumbria University have been awarded £1.6 million to develop a network which will support people with dementia by connecting existing technology and services as well as developing new innovations.