The Amyloid Cascade Hypothesis of Alzheimer’s Disease

Alzheimer's Disease Neuropsychology · https://neuro.vip/neuropsychology/neuropsychology-of-alzheimers-disease/amyloid-cascade-hypothesis-of-alzheimers-disease/

The amyloid cascade hypothesis of Alzheimer's Disease (Hardy & Higgins, 1992[1]) suggests that in Alzheimer’s Disease, sticky **amyloid-beta** (Aß) peptides fail to be removed from extracellular space in the brain. These peptides become **amyloid plaques**. Similarly, intracellular **tau proteins** fold irregularly into **neurofibrillary tangles** which **destroy cells**. Although not without its critics (e.g., Drachman, 2014[2]), the model has received much support. Lista et al. (2014)[3], for example, described it as the best accepted model for explaining the pathogenesis of AD.

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[1] Hardy, J. A., & Higgins, G. A. (1992). Alzheimer’s Disease: The Amyloid Cascade Hypothesis. *Science*, *256*(5054), 184–185. http://www.jstor.org/stable/2876981

[2] Drachman, D. A. (2014). The amyloid hypothesis, time to move on: Amyloid is the downstream result, not cause, of Alzheimer’s disease. *Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association*, *10*(3), 372–380. https://doi.org/10.1016/j.jalz.2013.11.003

[3] Lista, S., Garaci, F. G., Ewers, M., Teipel, S., Zetterberg, H., Blennow, K., & Hampel, H. (2014). CSF Aβ1-42 combined with neuroimaging biomarkers in the early detection, diagnosis and prediction of Alzheimer’s disease. *Alzheimer’s & Dementia*, *10*(3), 381–392. https://doi.org/10.1016/j.jalz.2013.04.506