

Clinicopathological correlation in FTD

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Research question and background

How do clinical symptoms correlate with pathological diagnosis in FTD patients?

The diagnostic process in patients with cognitive decline is often challenging. Frontotemporal dementia (FTD) is the second most common form of presenile dementia and is most often caused by frontal temporal lobar degeneration (FTLD). However, there is an overlap with other underlying pathologies. With emerging therapeutic options for dementia it is important to distinguish the various pathologies during life.

Methods and tissues used

We studied the clinicopathological correlation in FTD patients with a definite diagnosis (n=202) from our existing prospective cohort (n=562) of possible and probable FTD patients. A definite diagnosis was based on pathological findings (n=119) and/or known genetic mutations (n= 126; 50 *MAPT*, 31 *GRN* and 45 *C9orf72*).

Slices of various brain regions (amongst others hippocampus, temporal and frontal) were used.

Results and conclusion

The clinical distribution of definite FTD was 73.8% behavioral FTD, 8.4% semantic dementia, 6.4% progressive non-fluent or logopenic aphasia, 6.4% FTD motor neuron disease, progressive dementia with parkinsonism (n=4), psychiatric disorder (n=2), Alzheimer's disease (n=3) and progressive supranuclear palsy (PSP) (n=1). Pathological findings confirmed FTLD in 108 cases (81 probable and 27 possible) with accumulation of tau (21.3%), transactive response DNA-binding protein 43 (27.2%), fused in sarcoma protein (3.5%) or unclassifiable accumulation (1,5%). Three probable and eight possible FTD cases had a definite diagnosis inconsistent with FTLD: Alzheimer's disease (n=6), Creutzfeldt-Jacob disease (n=2), corticobasal degeneration (n=1), PSP (n=1) or no brain disease (n=1).

These results illustrate a considerable clinicopathological heterogeneity of FTD which may hamper the prediction of underlying pathology in living patients.