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Growth factors are increased in *MAPT*-associated FTD

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State of the art:
There are currently few validated fluid biomarkers for frontotemporal dementia (FTD). Growth factors have been shown to be increased in biofluids previously, particularly in sporadic cases, but they have been little studied in the genetic forms.
Methodology:
43 symptomatic (24 *C9orf72*, 11 *GRN*, 8 *MAPT*) and 104 presymptomatic FTD mutation carriers (43 *C9orf72*, 37 *GRN*, 24 *MAPT*) as well as 70 non-carriers were recruited from the GENFI study. An electrochemiluminescent immunoassay was used to measure Placental Growth factor (PlGF), Vascular Endothelial Growth Factor (VEGF), and the soluble fraction of the VEGF Receptor 1 (sVEGFR-1) in CSF. Regression analyses were performed to compare groups adjusting for age, sex, mutation carrier status and family membership.
Results:
PlGF was higher in symptomatic compared to presymptomatic mutation carriers ($p = 0.016$) and controls ($p = 0.042$). Symptomatic cases showed higher levels of VEGF ($p = 0.034$), as well as higher ratios of VEGF/sVEGFR-1 ($p = 0.034$) and PlGF/sVEGFR-1 ($p = 0.032$) compared to controls. In the genetic subgroups, PlGF and VEGF were higher in symptomatic compared to presymptomatic *MAPT* mutation carriers ($p = 0.003$, $p = 0.002$ respectively) and controls ($p = 0.004$, $p = 0.011$). VEGF was also higher in symptomatic *MAPT* compared to *C9orf72* and *GRN* mutation carriers.
Conclusion:
PlGF and VEGF concentrations were highest in symptomatic *MAPT* mutation carriers. Further work is needed to understand how these measures relate to the underlying pathophysiology of FTD as well how they may be used as biomarkers in future trials.

Conflicts of interest

N/A