Modifiable risk factors promoting neurodegeneration is associated with two novel brain degradation markers measured in serum - DTU Orbit (11/12/2018)

Modifiable risk factors promoting neurodegeneration is associated with two novel brain degradation markers measured in serum

There has been limited success with blood-based biomarkers of neurodegeneration. One perceived reason is that blood has no direct contact to the brain. Recently developed blood-based biomarkers of tau-degradation have shown promise as potential tools for peripheral assessment of neurodegeneration; however, factors contributing to the levels of these in blood are poorly understood. Using multiple linear regression analysis in cross-sectional data from an observational cohort (n = 5626), the aim was to examine which factors correlate to the serological levels of two novel biomarkers measuring truncated tau fragments (Tau-A and Tau-C) in serum. Platelets, albumin and several modifiable risk factors, including Body Mass Index, high density lipoprotein and White Blood Cell count were associated with the serum level of tau fragments. The factors associated with tau in serum may promote neurodegeneration and alter the permeability of the Blood Brain Barrier through chronic inflammation and vascular dysfunction. These data are of key importance for understanding the mechanism of release and subsequent peripheral processing of tau from the brain and will assist in the development of future blood-based biomarkers.