

Microglia activation and cytokines profile in post-mortem samples from patients with Alzheimer's disease

Ms Leydi Carolina González Gómez, Colombia

Introduction: Neuroinflammation plays a key role in the pathogenesis of Alzheimer's disease (AD), characterised by activated microglia and release of inflammatory mediators, such as INF- γ , IL-1 β , and TNF- α , which contribute to disease progression. The aim of this study is to measure inflammatory cytokines in cerebrospinal fluid (CSF) and microglial activation markers in the cerebral tissue of patients with neuropathological diagnostic of AD.

Methods:

Samples: postmortem CSF and cerebral tissue of patients with diagnostic of late-onset AD and aged controls without neurological disease.

Study groups: Sporadic AD (n=20; mean age: 86 [8,6]), Late-Onset Familial AD (n=19; mean age: 86 [6,9]) and Controls (n=14; mean age: 71 [11,6]).

IL-8, IL-1 β , IL-6, IL-10, IL-12p70, INF- γ , and TNF- α cytokines were measured by Cytometric Bead Array and results were correlated to histopathological changes and clinical records.

CD36, CD68, HLA-DR, and TMEM119 microglial markers will be measured by immunofluorescence.

Results:

An increase in pro-inflammatory cytokines was observed in all CSF samples, but no significant differences were found among the groups.

we expect a higher microglial activation in cerebral tissue in patients with AD compared with controls.

1. **Discussion:** activation of the immune system can lead to neurodegeneration by the

release of proinflammatory cytokines, such as IFN- γ , IL-1 β , and TNF- α , which are increased in AD. The increase of pro-inflammatory cytokines in controls can be associated with age-related neuroinflammation or another inflammatory process like infection and cancer