**BACKGROUND**

Today, Alzheimer’s disease (AD) is one of the most devastating neurodegenerative diseases worldwide. Pathologically increased β-amyloid in the brain of AD patients is thought to be one of the main causes for the observed progressive cognitive decline in affected people. The development of new drugs against AD is therefore a main research focus. To be able to test these new drugs, appropriate animal models are needed. The 5xFAD transgenic mouse model mimics the most crucial phenotypic symptoms of amyloidogenic neurodegeneration and is therefore among the best transgenic AD animals available.

**MATERIALS and METHODS**

5xFAD mice bear 5 mutations, 3 in the APP695 gene as well as 2 mutations in the presenilin 1 gene. The expression of the 5xFAD transgene is driven by the neuron-specific Thy1 promoter. Here, we analyzed the soluble and insoluble fraction of whole brain lysate from 5xFAD mice over age for aggregated Aβ by A4 assay and for Aβ and Aβ aggregates as well as neuroinflammation as indicated by astrogliosis and activated microglia by immunofluorescent labeling followed by quantification.

**RESULTS**

Our results show a progressive increase of Aβ40 and Aβ42 aggregates as well as neuroinflammation in the cortex and hippocampus of 3 to 9 months old 5xFAD mice.

**SUMMARY and CONCLUSION**

These results suggest that 5xFAD mice are not only a well-suited model for Aβ research but also to analyze Alzheimer’s disease - related neuroinflammation.

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