BACKGROUND
Gaucher disease is the most common lysosomal storage disease. The neuronal disease variant is characterized by aggregated protein accumulations in the brain and associated neurological manifestations. It is autosomal recessively inherited and modeled by 4L/PS-NA mice that express low levels of prosaposin and saposins, as well as a functionally impaired β-glucosidase (GCase) with a homozygous point mutation at V394L. A detailed characterization of these mice already showed a strong inflammatory pathology in visceral and neuronal tissue (Schiffer et al., 2020). In this study inflammation processes and neurodegeneration in 4L/PS-NA mice were further analyzed.

RESULTS

**Inflammation - KC/GRO**

In the current study cytokines were assessed in the plasma and CSF of 4L/PS-NA mice and age-matched 4L/PS+/+NA littermates, representing animals with V394L GBA mutation, but endogenous saposin level. While interferon-gamma or IL-1beta were not different between genotypes (data not shown), significant differences in KC/GRO concentrations between 4L/PS-NA and 4L/PS+/+NA littermates were detected in the plasma at 12 weeks of age (Fig. 1A). In the CSF, this genotype-specific difference was more pronounced and additionally present at other assessed time points (Fig 1B).

Previously described neuronal loss, especially in the cerebellum of the 4L/PS-NA animals (Fig. 2C), was confirmed by highly increased NF-L levels in plasma and CSF of 18 weeks old animals, compared to 4L/PS+/+NA littermates (Fig. 2A,B).

**NF-L and Neuronal Loss**

**REFERENCES**


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