P-128 - MSDU EXPERIMENTAL PROTOCOL INCREASES THE SUSCEPTIBILITY TO LPS-INDUCED INFLAMMATION IN YOUNG WISTAR RATS

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INTRODUCTION: Maple Syrup Urine Disease (MSUD) is a metabolism inborn error caused by a deficiency of branched a-ketoacid dehydrogenase complex (BCKDC), with the accumulation of branched chain amino acids (BCAA) (leucine, isoleucine and valine). Patients with MSUD present a series of neurological dysfunction. Recent studies have been associated the brain damage in the MSUD with inflammation and activation of the immune system. Moreover, MSUD subjects are more susceptible to infections. OBJECTIVE: In this regard, we investigated that the treatment with BCAA pool in young rats, MSUD experimental protocol, increases the cerebral cortex and hippocampus inflammation induced by lipopolysaccharide (LPS) exposition. MATERIALS AND METHODS: The inflammation was analyzed through the determination of Cytokines levels and advanced glycation end products receptor (RAGE) immunocontent. Statistical evaluation was carried out using the two-way analysis of variance (ANOVA) with MSUD and LPS administration as independent variables. RESULTS: We observed that high levels of BCAA in infant rats are related to increased brain inflammation induced by LPS administration, as well as, led to an increase in RAGE expression. The brain inflammation was characterized by high levels of IL1-β, IL-6, TNF-α and IFN-γ, and decreased content of IL-10. CONCLUSION: Therefore, the results of this study shows that MSUD is associated with a more intense neuroinflammation induced by LPS infection.