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Relationship between microbiota and oxidative stress in multiple sclerosis

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Statement of the Problem: Recent data have shown that microbiota maintains an important relationship with the central nervous system (CNS) a bilateral nature. The alteration of this balance gives rise to different diseases such as chronic and neuroinflammatory disorders. Among these illnesses is multiple sclerosis. The purpose of this study is to describe the role played by microbiota and oxidative stress in the development of multiple sclerosis (MS).

Methodology: in our studies, we studied oxidative damage biomarkers in both nervous tissue and blood, as well as the indirect marker of dysbiosis such as lipopolysaccharide bacteria (LPS) and LPS-binding protein (LBP) in experimental autoimmune encephalomyelitis (EAE), an experimental of MS. In addition, oxidative stress and dysbiosis biomarker were analyzed in the patient with MS.

Findings: These findings showed a correlation between clinical changes, oxidative stress and dysbiosis (LBP and LPS) markers. Similar changes were appreciated in the blood of patients with MS.

Conclusion: The data indicate the important role played by microbiota on oxidative stress and development of MS. This idea opens the possibility of a new therapeutic strategy.

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