PERIPHERAL OXIDATIVE STRESS IN PATIENT WITH ALZHEIMER DISEASE MAY BE USED AS A CLINICAL BIOMARKER INDICATIVE OF SEVERITY DEGREE OF DISEASE

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Introduction: Alzheimer disease is a neurodegenerative (AD) process characterized by a progressive deterioration of cognitive and intellectual functions. Previous studies show that oxidative stress is involved in its pathogenesis.

Aims: The aim of our study was to evaluate the relationship of disease stage and peripheral oxidative stress in patients with AD.

Methods: To achieve this, we selected 12 healthy subjects and 23 patients with AD (12 mild and 12 moderate). We analyzed the oxidative damage to proteins and other biomarkers antioxidants such as glutathione (GSH) and glutathione peroxidase (GPx).

Results: Our data show the existence of intensive oxidative damage in peripheral samples of patients with AD versus healthy subjects. In addition, the increases of carbonylated proteins (P< 0.005) together with the reduction of antioxidant systems (GSH, P< 0.039; and GPx activity, P< 0.017) were more intensity in patients with moderate AD than middle AD.

Conclusion: Our data show a close link between the intensity degree of disease and oxidative status. Additionally, the data support, at least, the use oxidative and antioxidative biomarkers as possible indicators of disease stage, although more studies are required to define clearly this point. Project was supported by the Andalusian Society of Neurology, ITC fellowship.