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Relapsing remitting multiple sclerosis and its relationship with the immunology system and with the oxidative stress

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Multiple sclerosis (MS) is a chronic autoimmune neurological disease characterized by a demyelinating inflammatory response of the central nervous system (CNS). During the natural evolution of the disease there are episodes of inflammation and high levels of oxidative stress products that have been related to the progression and severity of the disease. To evaluate the expression of the mRNA of the genes that encode inducible and constitutive nitric oxide synthase and its association with the indicators of oxidative stress in plasma (nitric oxide synthase activity, glutathione peroxidase enzymatic activity, nitrate-nitrite, lipoperoxide, fluidity membrane) in patients with relapsing remitting multiple sclerosis (RRMS). The MRI of patients with RRMS had a very similar pattern in terms of the presence or recent appearance of new lesions. The expression of *iNOS* is increased in leukocytes from patients with RRMS compared to healthy controls. The expression of *iNOS* is decreased in leukocytes of patients with RRMS at the end of the month of evolution with respect to the first intake and at the end of the week of the outbreak compared with healthy controls. Also nitric oxide metabolites, lipid peroxidation products, nitric oxide synthase activity and glutathione peroxidase activity were significantly increased in plasma from subjects with RRMS compared to healthy controls. The plasma membrane fluidity of subjects with RRMS has values similar to that of plasma of healthy controls. Both the biochemical indicators of oxidative stress and the expression of the *iNOS* gene are increased in the plasma of patients with RRMS. Therefore, there is a positive association of the biochemical indicators of oxidative stress in plasma with the expression of *iNOS*.

Biography

Ada Paloma Soto Brambila, is a Doctor from the University of Guadalajara. He has completed his Master's degree in Human Genetics with an orientation in Neuroscience and is in the Doctorate program in Human Genetics from the same University. He has published several articles related to Medical Genetics and Neurosciences.

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