P01-70 - **COMPLEXITY ANALYSIS OF BRAIN´S ACTIVITY IN MAJOR DEPRESSION USING MAGNETOENCEPHALOGRAPHY (MEG)**

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Introduction: Previous studies have suggested structural and physiological changes in Major Depressive Disorder (MDD). Unfortunately, there isn't a consensus when defining the neuropathophysiology of depression. Hence, there isn't a biological measure used in the clinical practice to define the differences between patients with depression and controls.

Objective: To test differences in Lempel-Ziv complexity (LZC) values between patients with major depression and controls.

Methods: Comparison of spontaneous oscillatory neuromagnetic activity using MEG between groups.

Participants: 20 patients matching DSM IV-TR criteria for MDD, and 19 sex- and age-matched controls.

Results: We found a significant positive correlation between age and LZC values within controls. This correlation was not found in MDD patients. Depressive subjects showed a tendency of higher LZC values when compared to controls. We found significant differences between groups in anterior and right regions. After six months of treatment with Mirtazapine (30 mg V.O. O.D.), we studied the Hamilton-17 rating scale values and found that this treatment was clinically effective in most patients. The main pharmacological treatment's effect was besides reducing the LZC values in patients, to recuperate the tendency observed in controls.

Conclusions: We could suggest that there is a relationship between a physiological metric and depression as well as symptom relief or remission after an effective treatment. According to our results we found physiological changes in the brain dynamic in depressive patients when compared to controls which means there are neurophysiological changes in depressive patients with time.

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