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INTERHEMISPHERIC ASYMMETRY IN OCD PATIENTS AN STUDY USING NON LINEAR ANALYSIS OF MEG RECORDINGS

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Introduction: Obsessive compulsive disorder (OCD) is characterized by the presence of obsessions and compulsions that cause emotional distress and affect different aspects of a patient´s life which are clinically significant. Experts have developed an OCD model which involves hyperactivity in certain subcortical and cortical regions.
Objectives: To study the differences in the cerebral activity between control and OCD group using Lempel-Ziv complexity (LZC) algorithm, specially focused in the presence of an interhemispheric asymmetry.
Methods: We analyzed the magnetoencephalographic recordings of 13 patients diagnosed of OCD (DSM and ICD) and 60 healthy controls, using the LZC algorithm. Statistical analysis, using SSPS 19.0, included Wilcoxon signed rank and correlation Tests.
Results: LZC values were smaller in the OCD than in the control group. An asymmetry between both lateral regions was found in the OCD sample but not in the controls.
We studied the difference between the Pearson correlation coefficients (left and right values) between OCD and controls, which was statistically significant.
Conclusions: Although we know that in humans normal variation and specialization produce asymmetries of function and structure leading to an asymmetry between brain hemispheres, it seems to be more important in some mental disorders.
The presence of an asymmetry between both lateral regions is a conclusion found in previous neurophysiological works and that must be integrated in the neuroanatomical model of the disorder.

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