

P-1162 - PRE- INTRA- AND POST-TREATMENT EEG IMAGING OF EMDR - NEUROBIOLOGICAL BASES OF TREATMENT EFFICACY

M.Pagani, G.Di

Lorenzo, A.R.Verardo, G.Nicolais, G.Lauretti, R.Russo, P.Cogolo, C.Niolu, M.Ammaniti, A.Siracusano, I.Fernandez

¹Institute of Cognitive Sciences and Technologies, CNR, ²Department of Psychiatry, University of Rome 'Tor Vergata', ³EMDR Italy Association, ⁴Department of Psychology, University of Rome 'La Sapienza', Roma, Italy

Aim: Eye Movement Desensitization and Reprocessing (EMDR) is a recognized first-line treatment for psychological trauma. However its neurobiological bases have not been disclosed yet.

Methods: Electroencephalography was used for the first time to fully monitor neuronal activation during whole EMDR sessions including the autobiographical script. Nine clients with major psychological trauma were investigated during the first EMDR session and during the last one performed after processing the index trauma. Comparisons between the EEG of the first and last EMDR session and between the EEG of the clients at the first session and those of 9 controls undergoing the same EMDR procedure were performed.

Results: During both script listening and bilateral stimulation EEG showed significantly higher activity in the prefrontal limbic cortex (Brodmann Areas, BA 9-10) at the first as compared to the last EMDR session. The opposite comparison showed a shift of the prevalent activity towards temporal, parietal and occipital cortical regions (BAs 20, 21, 22, 37, 17, 18, 19) with leftward lateralisation. The comparison between the 9 clients and the 9 controls confirmed the maximal activation in the limbic cortex in the clients before processing the trauma.

Conclusions: The implemented methodology made possible to image for the first time the specific activations associated with the therapeutic actions contemplated by EMDR. The findings suggest cognitive processing of traumatic events following successful EMDR therapy supporting the evidence of distinct neurobiological patterns of brain activations during bilateral ocular stimulation associated with a significant relieve from negative emotional experiences.