Relazioni su invito e Abstract a Corsi, Convegni, Meeting nel corso dell’anno 2014.

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- 29th Course in Basic Electroencephalography; Gargnano, March 9th – 14th 2014: Polygraphic recordings.

- Meeting di Neuropsichiatria - Bologna 15 Aprile 2014: Network Epilettoegeni nelle encefalopatie epilettiche: il contributo dell’neuroimaging funzionale

- 3rd International congress on Epilepsy, Brain, and Mind; Brno- Czech Republic, April 3rd – 5th 2014: How much does this face alert you? The role of arousal from facial expression in medial temporal lobe epilepsy

The study of emotions’ perception and recognition (ER) in medial temporal lobe epilepsy (MTLE) has demonstrated that patients with chronic medial temporal lobe damage present deficits in the recognition of multiple emotions and that these deficits are not specific for one sensory modality. Indeed, MTLE patients perform worst than control populations when they have to judge facial expressions, emotional prosody, or even the emotional content of music. Several patient’s specific variables can impact the severity of ER: extent of amygdala damage, bilateral temporal lobe structures dysfunction, age of epilepsy onset, disease duration. However, the exact nature of ER impairment in the recognition of multiple emotions has not been elucidated so far. Considering that MTLE patients who show ER impairments display a normal knowledge of the conceptual meaning of the different emotions (i.e. the semantic significance of fear), one possibility to explain ER deficits can be that MTLE disrupts the arousal reaction that is normally induced by the presentation of emotionally charged stimuli (either with positive or negative valence). This low arousal response to emotional stimuli could have several consequences on the patients’ behavior, ranging to lower attention to relevant biological stimuli, impairment in the judgment of emotions in others, lower engagement in social activities and social networks. To test this hypothesis we discuss here the findings obtained in MTLE patients when they were asked to report the level of subjective arousal induced by different facial expressions. We evaluated the subjective arousal ratings from basic facial expressions in different groups of patients: a) unilateral MTLE; b) bilateral MTLE; c) anterior temporal lobectomy (ATL) patients. All patients groups showed to be subjectively lesser aroused than control population from facial expression (either from fearful than for happy faces). Bilateral MTLE patients maximally expressed this deficit. Interestingly, lower arousal scores correlated with the explicit ER recognition performance. These findings suggest that arousal from emotional stimuli is altered in MTLE and that this defect could be one of the mechanism underlying or predisposing patients to social cognition impairments.
Objective: Defective social abilities have been observed in patients with Mesial Temporal Lobe Epilepsy (MTLE). Especially MTLE impairs facial expressions recognition of negative emotions. To test the existence of a supramodal system for recognizing signals of fundamental emotions, we evaluated in a group of MTLE patients, the ability to recognize basic emotions from visual and prosodic cues. Moreover we tested: (a) if patients impaired in one modality presents deficits in the other one; and (b) the correlation of emotion recognition with cognitive intelligence.

Methods: 41 patients were enrolled in the study and performed two different tasks of basic emotions recognition as part of a comprehensive neuropsychological assessment. The identification of happiness, fear, disgust, anger and sadness were assessed in the two tasks: for the visual domain, we test the emotion recognition from facial expressions, while to investigate emotional prosody we used sentences with neutral semantic, but expressed with different prosodic intonation.

Results: Results showed deficits both in the recognition of facial and vocal expression for all basic emotions (fear, sadness, disgust, anger), but happiness: the accuracy of recognition in the patients’ group was significantly lower respect to healthy subjects both in the visual and auditory domain. Furthermore, we observed a strong correlation of performances across the two tasks. On the contrary, no correlation was evident between emotions recognition and intelligence measures.

Conclusions: These data suggest that emotion recognition impairment in MTLE is not dependent from the sensory modality through which the emotional stimulus is conveyed, and support the notion that emotional processing is at least partly independent from measures of cognitive intelligence.