“EMOTIONS’ RECOGNITION IN MEDIAL TEMPORAL LOBE EPILEPSY: A SYSTEMATIC REVIEW”

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Purpose: A wide literature evaluated emotions’ recognition (ER) in medial temporal lobe epilepsy (MTLE), based on the assumption of functional amygdala-hippocampal structures’ damage. We analysed all current literature focused on this topic to deduce some relevant theoretical messages. In particular, we aim to analyse whether differences (if any) in emotion recognition performance could be explained by disease-related factors, such as age of epilepsy onset, duration of disease, types and number of antiepileptic drugs, side of seizure focus, pathology, pre/post-surgery status. Moreover we tried to improve our understanding in social problems that occur in these patients, as well as to identify areas for future research.

Method: we used electronic searches through specific key words and references list to find included papers, that are cross-sectional studies comparing MTLE or temporal lobectomy (ATL) patients with healthy volunteers (HV) or clinical control groups (CCG, such as extra-MTLE, IGE). Few longitudinal studies compared same patients before and after ATL. We included all type of ER stimuli (facial expressions, prosody, visual dynamic stimuli and music) involving both basic and social emotions. Results: thirty-six papers meet full inclusion criteria. Most of the studies showed severe ER impairment in MTLE and ATL patients compared both with HV and CCG, especially for fear, but also for other emotions with negative value (anger, disgust, sadness), nobody for happiness. The deficit was independent by sensory modality used (visual or auditory). Bilateral and right side MTLE patients seem to have worst performance in ER tasks. Relevant outcome concern the early onset and long duration of epilepsy patients whose performance were severely impaired compared to late onset epilepsy ones. Conclusion: ER deficits in MTLE patients are due to specific syndrome features and have some effects on social behaviour. Limit of our review regards different methodological approach of many papers. Prospective longitudinal studies that evaluated same MTLE patients before and after ATL are needed to improve knowledge about amygdala-hippocampal structures and ER abilities.