

Hemispheric specialization and epilepsy.

Santina Città, Valentina Genitori D'Arrigo, Serafino Buono¹, Maurizio Elia²

The aim of this review is to report the most recent researches about hemispheric specialization in relationship with the age of onset of the damage, the gender, the localization of the lesion or of the epileptic anomalies and manual dominance.

The complications of the cerebral dysfunction can be limited by mechanisms of compensation and cerebral plasticity that allow almost partial recovery of the functionality of the damaged neurones, according to the extent of the damage and to the complexity of the function involved. The possibility to compensate the functionality of damaged areas is correlated with an early age of onset of the damage, that represents one of the most severe risk factors in prognosis of epilepsy.

Regarding the gender factor, the proportion of left – handedness is also greater in males with epilepsy and mental retardation.

Then, various authors have found that cerebral dominance of an hemisphere for some functions can shift on the contralateral hemisphere, as a consequence of a series of factors that are for example typical dominance for the specific function and localization of the damage.

Furthermore, hemispheric localization can be disturbed by the presence of ictal and interictal paroxysmal abnormalities in the EEG. With regard to manual dominance, some studies report evidences on a prevalent left or ambiguous dominance in subjects with epilepsy, Down syndrome and autism, compared to normal subjects.

¹*Servizio di Psicologia, IRCCS Oasi Maria SS – Via Conte Ruggero, 73 – 94018 Troina (EN). Tel. 0935936111*

E-mail: psico@oasi.en.it

²*Servizio di Neurologia, IRCCS Oasi Maria SS – Via Conte Ruggero, 73 – 94018 Troina (EN). Tel. 0935936111*

E-mail: melia@oasi.en.it