Abstract:

Mirror neurons (MN) are a group of neurons with extraordinary visuomotor character. Their activation is connected to an observation of a certain action and its execution, if the action was already in motoric repertoire of the observer. MN were firstly identified in macaque´s brain, with later identification in human´s brain. The most important structures where we can find the MN are Broca´s area located in the inferior part of frontal gyrus (IFG), premotor cortex and superior parietal lobule (SPL). The functions of MN are various, they take part in action understanding, imitation, learning and language. According to present knowledge, they were assigned a role in social cognition – while experiencing empathy and theory of mind (ToM). Empathy can be defined as sharing of another person´s emotions. ToM highlights the importance of one´s ability to represent metal states of other people, knowledge, wishes and experiences. It leads towards understanding and anticipating of another person´s actions. Additionally to MN, amygdala, insula and basal ganglia are also important in processes of social cognition. Impairments of social cognitive skills are in autism, schizophrenia and psychopathy.

Key words: mirror neuron system, motor area, social cognition, empathy, theory of mind