Article: EPA-0983
Topic: FC03 - Free Communications Session 03: Affective disorders

REVISITING DEFAULT MODE NETWORK FUNCTION IN MAJOR DEPRESSION: EVIDENCE FOR DISRUPTED SUBSYSTEM CONNECTIVITY

R. Wolf[1], N. Vasic[2], N.D. Wolf[3], M. Pennuto[4], F. Sambataro[5]

[1]Department of General Psychiatry, University Hospital Heidelberg, Heidelberg, Germany ; [2]Department of Psychiatry III, University Hospital Ulm, Ulm, Germany ; [3]Department of Addictive Behavior and Addiction Medicine, Central Institute of Mental Health, Mannheim, Germany ; [4]Neuroscience and Brain Technology, Istituto Italiano di Tecnologia, Genova, Italy ; [5]Brain Center for Motor and Social Cognition, Istituto Italiano di Tecnologia, Parma, Italy

Major depressive disorder (MDD) is characterized by alterations of brain function that are identifiable also during the brain's 'resting state'. One functional network that is disrupted in this disorder is the default mode network (DMN), a set of large-scale connected brain regions that oscillate with low-frequency fluctuations and are more active during rest relative to during a goal-directed task. Recent studies support the idea that the DMN is not a unitary system, but rather is composed of smaller and distinct functional subsystems that interact with each other. The functional relevance of these subsystems in depression, however, is unclear. Here, we investigate the functional connectivity of distinct DMN subsystems and their interplay in depression using resting state functional magnetic resonance imaging (rs-fMRI). We show that patients with MDD exhibit increased within-network connectivity in posterior, ventral and core DMN subsystems along with reduced interplay from the anterior to the ventral DMN subsystems. These data suggest that MDD is characterized by alterations of subsystems within the DMN as well as their interactions. Our findings highlight the critical role of DMN circuitry in the pathophysiology of MDD, thus suggesting these subsystems as potential therapeutic targets.

https://doi.org/10.1016/S0924-9338(14)78284-7 Published online by Cambridge University Press