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EDITORIAL

Therapeutic targets in major psychiatric disorders revisited

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Following the hypothesis of schizophrenia being a disorder of impaired neural plasticity, numerous clinical trials have investigated the efficacy of non-invasive brain stimulation techniques in modulating plasticity and the treatment of this disorder. Hasan et al. [1] in this interesting invited review outline the four main stimulation protocols rTMS, UDP, PAS and tDCS which in some aspects have shown promising evidence to be an effective add-on treatment in schizophrenia. Alterations in GABAergic and glutamatergic neurotransmission may be improved by brain stimulation. However, since the optimal stimulation technique, target region and disease state for an intervention are still insufficient, the authors plead for funding further basic research in this area. Based on effects on sigma-1 receptors, which are involved in neuronal plasticity, synaptogenesis and myelination, add-on fluvoxamine treatment has been shown to improve negative symptoms in schizophrenia. In a meta-analysis, Kishi et al. [2] report that fluvoxamine treatment has significant effects on negative and overall symptoms in patients treated with first-generation antipsychotics, while no effects on positive symptoms and depression have been observed. In contrast, in patients medicated with second-generation antipsychotics only overall symptoms have been improved by add-on treatment. However, results should be regarded with caution since to date only a small number of studies have investigated this issue.

In schizophrenia, the relationship between cannabis use and cognitive performance is controversial with some studies showing improved cognitive outcome in those patients using cannabis. In a 10-year follow-up study of lifetime cannabis use, Sánchez-Torres et al. [3] found negative effects on performance in the social cognition task, while in the unaffected siblings, lifetime cannabis abuse had impaired processing speed and declarative memory. In healthy controls, a negative impact of lifetime cannabis and tobacco use on processing speed and social cognition performance has been detected. In a facial recognition task, Heinisch et al. [4] reported that in schizophrenia patients higher insight correlated with faster reaction times in distinguishing one's own face from famous faces. This stands in contrast to the total group of patients and supports the view that self-face recognition is an indicator for higher-order self-awareness.

Affective disorders are in the focus of Angst et al. [5], who with respect to the current revision of bipolar I (BP-I), bipolar II (BP-II) disorder and major depression (MDD) by the APA and WHO try to break evidence-based new grounds in distinguishing these disorders. This applies especially for a preponderance of anxiety disorders among BP-II versus BP-I patients which allow their clearer, if not even fundamental, discrimination. The consideration of personal illness course, pattern of concurrent comorbidities plus family history also seems to allow a better discrimination between MDD and BP disorders. In light of the assumption that in 2030, MDD will to one-third be responsible for the total loss of disability-adjusted life years, Scheele et al. [6] investigated whether depressed mood states negatively influence social-economic decision making. Via an enhanced version of the ultimatum game task, in which a fair, cooperative player altruistically punishes the unfair and non-cooperative counterpart, the work group tested a potential susceptibility of punishment to depressed mood in 20 actually depressed MDD patients

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to 20 healthy controls and found the patients to oversanction unfair proposals and to judge emotional stimuli too negatively. This association between MDD and negative emotional bias inhibits social-economic decision making and thus leads to large personal costs. The premenstrual dysphoric disorder (PMDD), a cyclic mood disorder commencing in the luteal phase of the menstrual cycle, strikes about 3–8 % of premenopausal, especially young, women. However, the underlying neurobiological basis is unknown with brain-derived neurotrophic factor (BDNF) and heat-shock protein-70 (HSP70) being candidates involved in stress-related response. Oral et al. [7] compared 25 PMDD to 24 non-affected women in the luteal phase and found significantly higher serum BDNF and HSP70 levels in the PMDD group. This may reflect a cellular distress with compensatory upregulation of BDNF, leading to improvement of depressive symptoms in the follicular phase.

The German Association for Psychiatry, Psychotherapy and Psychosomatics (DGPPN) recently launched a scientific project aimed at building a long-term research infrastructure for psychiatric research in Germany: the "DGPPN-Cohort." This project is poised to change the way patient-centered psychiatric research will be performed over the next decades. Featuring a robust IT and biobanking infrastructure, the DGPPN-Cohort will network major academic and clinical centers in Germany to establish large and prospectively assessed cohorts of patients suffering from major psychiatric disorders such as bipolar disorder, schizophrenia or major depressive disorder (Anderson-Schmidt et al. [8]). This will create a unique resource for all areas of psychiatric research, ranging from epidemiological to clinical and biological research. This effort will be an important milestone in shaping Germany's psychiatric research landscape and lay the foundation for the development of novel strategies for psychiatric treatment and care.

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