Tentative Outline

Special Issue for CNS & NEUROLOGICAL DISORDERS-DRUG TARGETS

Guest Editors: Andre F. Carvalho, Roger S. McIntyre, Konstantinos N. Fountoulakis

COGNITIVE DYSFUNCTION IN MAJOR DEPRESSIVE DISORDER: PATHOPHYSIOLOGY, CLINICAL IMPLICATIONS AND TREATMENT OPPORTUNITIES

Aims & Scope:

Cognitive impairments in major depressive disorder (MDD) are consistent and replicable findings with significant clinical impact. The aggregated estimated effect size of cognitive deficits in MDD is small to medium. However, pronounced deficits in executive function is evident in ~ 20-30% of adult MDD patients. Other replicated deficits are in the domains of working memory, attention, and psychomotor processing speed. Cognitive dysfunction may mediate psychosocial dysfunction among MDD patients, notably workforce performance. Efforts have been directed to develop both objective and subjective measures have been developed to incorporate the assessment of cognitive function into the routine care of MDD patients. Individuals with MDD have higher prevalence rates of co-morbid obesity and associated metabolic conditions (e.g., metabolic syndrome) than the general population. These co-morbid metabolic disturbances may play a contributory role in the widespread cognitive deficits present in MDD. Recently, a theoretical framework has been proposed to mechanistically explain the neuro-progressive nature of MDD (Moylan et al. Molecular Psychiatry 2013; 18(5): 595-606). Neuro-inflammatory disturbances, along with elevated oxidative and nitrosative stress and aberrant activation of the hypothalamic-pituitary axis may play a role in the progressive cognitive deficits of MDD. Current antidepressant drugs do not have robust effects on cognitive dysfunction in MDD. Therefore, novel therapeutic compounds for the treatment of cognitive deficits present in MDD should be developed. Several novel neurotherapeutic targets have been tested and/or proposed, namely: intranasal insulin, compounds targeting glutamatergic neurotransmission, antioxidants, anti-inflammatory agents, creatine monohydrate, statins, glucagon-like-peptide-1 (GLP-1) analogues, among others. Aerobic exercise may also improve cognitive function in MDD through a variety of mechanisms. Psychosocial approaches (e.g., cognitive remediation) has established efficacy in the management of cognitive dysfunction in psychotic disorder. Although evidences for MDD are still scarce, the development of psychosocial intervention packages targeting cognitive dysfunction in MDD is a research priority. This special issue will provide the reader with current evidences regarding cognitive deficits in MDD with immediate clinical implications. Furthermore, novel developments and prospects in this field will be highlighted on a translational perspective. Finally, epidemiological and pathophysiological mechanisms linking depression to an increased risk for incident dementia (most notably Alzheimer’s disease) will be reviewed.

Key words:

Major depressive disorder, cognitive dysfunction, antioxidants, anti-inflammatory, Alzheimer’s disease, dementia.

Subtopics:

- Cognitive deficits in major depressive disorder
- Novel targets for cognitive disturbances in major depressive disorder
- Neuropsychological aspects of antidepressant drug action
- Neuroimaging findings related to cognitive deficits in major depressive disorder
Clinical trials of putative agents targeting cognitive dysfunction in major depressive disorder
Animal models for cognitive deficits in depression
The effects of exercise on cognitive deficits in major depressive disorder
Cognitive remediation therapy for major depression disorder
“Hot” and “cold” cognition in major depressive disorder
The assessment of cognitive deficits in major depressive disorder
Pathophysiology of cognitive deficits in major depressive disorders
Systematic reviews and meta-analyses on neurocognition in major depressive disorder
Neuroplasticity mechanisms in depression and dementia
Neuroimmunological interactions involved in depression and neurocognitive disorders

Schedule:

Manuscript submission deadline: March, 2014
Peer review due: April, 2014
Revision due: May, 2014
Notification of acceptance by the Guest Editor: May, 2014
Final manuscript due: June, 2014