Tentative Outline

Special Issue for CNS & NEUROLOGICAL DISORDERS-DRUG TARGETS

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MOLECULAR LINKAGE BETWEEN ALZHEIMER DISEASES AND TYPE 2 DIABETES

Aims & Scope:

Physiological problems of the central nervous system (CNS) usually influence either on the brain or the spinal cord mainly as a result of neurological or psychiatric disorders. There are various neurodegenerative diseases (ND) such as Alzheimer's disease (AD), Parkinson's disease (PD), Huntington's disease, Amyotrophic lateral sclerosis (ALS), Schizophrenia, Autism and the mood disorder. There are several causes of each of the CNS’s disease for example trauma, infections, degeneration, autoimmune disorders, structural defects, tumors, serious chronic depression and the stroke. Regarding the symptoms, in case of AD, memory loss, personality changes, dementia and ultimately death can occur in sever stage while in PD person has problem of tremor, stiffness and impaired control of movement resulting from loss of dopamine. On the other hand, Huntington's is a hereditary disease caused by a dominant mutation of the Huntingtin gene with characteristic symptom of jerky, random, and uncontrollable movements. Cellular buildup of mis-folded proteins, such as β-amyloid, tau, alphasynuclein, TDP-43, are the hallmark of many ND. Mitochondrial dysfunction is another well-known element of various ND due to its apoptotic pathway.

On the other hand, many factors are affecting metabolic process such as imbalance in enzymes activities or catalytic characteristic, coenzymes, cofactors, vitamins, hormones, cytokines, growth factors and minerals, which consequently causes metabolic tribulations. Generally, energy metabolism of the body is linked with mono-saccharides and fatty acid metabolism and its imbalance can cause obesity and diabetes. Glucose homeostasis is regulated by insulin and specific hormone like glucagon. Deficiency of insulin or its insensitivity to its receptors is the fundamental cause of the diabetes. Type 1 diabetes results from an autoimmune destruction of the insulin-producing pancreatic β-cells while in case of Type 2 diabetes (T2DM) insulin is produced however there is resistance for its sensitivity with respect to its receptors, so glucose molecule is not successfully transferred from plasma to cells of storage organ such as liver and adipose tissues and it may highly heritable in nature. β-cell dysfunction is strongly associated with mitochondrial dysfunction, endoplasmic reticulum stress and inflammation, which is also a serious step in the pathogenesis of T2DM. The most common forms of diabetes is polygenic rather monogenic. So both troubles of AD and T2DM are two exasperating health disarrays, agitating millions in this era of modern science and technology all-around the world. Both scenarios can be further proliferated with extension of age span (by controlling some of lethal diseases) and baby boom in some countries like Australia. Therefore, a special attention is required by our researchers. More and more links are being found everyday between inflammation and CNS disorders like AD, PD, Huntington's and cancer. So in this hot issue we will tried to shed light on those important share features like abnormality in the level of some enzymes, hormones, peptides (leptin, ghrelin, orexin, PYY 3-36, cholecystokinin, adiponectin), inflammatory modulators (IL-6, TNF) and in insulin signalling system by different authors in their articles.

Key words:

Central Nervous System, Alzheimer's disease, Glucose homeostasis, Type 2 Diabetes, Huntingtin gene, Parkinson's disease.
Subtopics:

A molecular bridge: Connecting Diabetes type II and Alzheimer's disease

Dysfunctional mitochondrial turnover in the limelight of diabetes and Alzheimer's disease interaction

Autophagy dysfunction and its link to Alzheimer's disease and type 2 Diabetes

Molecular linkage between diabetes and Alzheimer's disease: Current scenario and future prospects

The role of neuronal Insulin / IGF-1 signaling for the pathogenesis of Alzheimer's disease and possible therapeutically implications

Alzheimer's disease and Type 2 Diabetes mellitus: Commonalities and probable nutritional strategies

Scientific isomerism in between Alzheimer Disease and type 2 Diabetes

Modulation of amyloidogenesis by insulin like signalling pathway

Impact of inflammatory and molecular markers common in Alzheimer's and type-2 Diabetes Mellitus

Linkages between Alzheimer’s disease, Huntington's disease and type-2 Diabetes Mellitus

Metabolomic approach towards Molecular Linkage in between Alzheimer Diseases and type 2 Diabetes

Proteomoic approach towards Molecular Linkage in between Alzheimer's Diseases and type 2 Diabetes

Genomic approach towards Molecular Linkage in between Alzheimer's Diseases and type 2 Diabetes

ER stress en route diabetes and Alzheimer’s disease: a common link?

Nanotechnology in the linkage between type 2 diabetes and Alzheimer’s Diseases.

Common cellular and molecular mechanisms underlying Alzheimer’s Diseases and type 2 Diabetes: a knowledge-driven approach

Butyrylcholinesterase interaction with an innovative experimental Alzheimer drug candidate fluorobenzylcymserine: a combined experimental and computational approach

Comparing pathogenetic processes in Huntington's disease with those in Alzheimer’s disease and type-2 Diabetes Mellitus

Schedule:

Manuscript Submission Deadline to me: November 2012

Peer Review Due: December 2012

Revision Due: January 2013

Notification of Acceptance by the Guest Editor: February 2013

Final Accepted Manuscripts Due to Submit to the Managing Editor: February 2013