Tayfun Uzbay, J Neurol Disord 2018, Volume 6
DOI: 10.4172/2329-6895-C10-051

5th Annual Conference on
STROKE AND NEUROLOGICAL DISORDERS
November 12-13, 2018 Istanbul, Turkey

Tayfun Uzbay
Uskudar University, Turkey

Genoplasticity, brain and neuropsychiatric disorders

One of the most intriguing and fundamental properties of brain function is the ability to sustain long-term changes in patterns of neuronal activity. This concept, called neuroplasticity or brain plasticity, refers to the ability of adaptation and change-ability of brain within the time. Sometimes the reorganization or re-adaptation mediates vital and important physiological events such as learning and memory by LTP; but sometimes, especially under internal or external heavy stressful conditions, the statement is called as contra-adaptation and it is responsible for several neuropsychiatric diseases. Neuroplasticity is a continuous process in reaction to neuronal activity and neuron injury, death, and genesis, which involves modulation of structural and functional processes of axons, dendrites and synapses. Elements of signal transduction cascade (SDC) between the neurons include in neurotransmitters, receptors, G proteins, second messengers, protein kinases, and transcription factors. If anyone of these elements has failure, pathological conditions (contra-adaptation) occur in brain. Each step of neurotransmission is influenced by changes in genes and DNA in SDC. In fact, neuroplasticity is a result of adaptive genomic changes in SDC and it is a product of gene plasticity or genoplasticity. However, the term genoplasticity does not frequently used in literature. Today, we do not have any radical solutions in treatment of important neuropsychiatric diseases such as autism, schizophrenia, addiction and Alzheimer yet. Some external and internal factors may change task definition of neurons by causing genomic changes and occurring mutant or terrorist neurons may cause severe brain disorders. We should also approach to neuropsychiatric diseases in aspect to genoplasticity.

Biography

Tayfun Uzbay has completed his PhD at the age of 32 years from Gulhane Medical School in Ankara and postdoctoral studies from University of North Texas, Department of Pharmacology and Neuroscience in USA and University of Cagliari, Department of Toxicology in Italy. He is the director of Neuropsychopharmacology Application and Research Center (NPARC) at Üsküdar University in İstanbul. Professor Uzbay is a founder of Psychopharmacology Research Unit in Turkey. His research studies have focused on Behavioral Neuroscience. He has patents of some molecules for schizophrenia treatment. He has published more than 200 papers in reputed journals and citations more than 3500.

uzbayt@yahoo.com