conferenceseries.com

Alain L Fymat, J Neurol Disord 2018, Volume 6
DOI: 10.4172/2329-6895-C5-036

JOINT EVENT

4th International Conference on **Epilepsy & Treatment**

&

4th World Congress on **Parkinsons & Huntington Disease**

August 29-30, 2018 | Zurich, Switzerland

Alain L Fymat

International Institute of Medicine and Science, USA

A disrupted blood brain barrier may allow potentially new epileptic treatments

There are approximately 400 known neurological disorders (including some which may be better classified as mental disorders). Some of these disorders may be due to a disruption or failure of the blood brain barrier (BBB) such as, importantly, epilepsy (a group of neurological disorders characterized by chronic or acute seizures caused by inflammation). Epileptic seizures are the result of excessive and abnormal nerve cell activity in the brain cortex. As of 2015 about 39 million people have epilepsy with nearly 80% of the cases occurring in the developing world and 125,000 having died of it. Common among older people, epilepsy will become more prevalent as a result of the growing aging population. The cause of most cases of epilepsy is still unknown through a process known as epileptogenesis. Nonetheless, there are both genetic and acquired causes, with interaction of these factors in many cases. To date, nearly all the genes discovered to be involved in human epilepsies encode subunits of ion channels, both voltage-gated and ligand-gated. Known genetic mutations are directly linked to a small proportion of cases. Established acquired causes include serious brain trauma, stroke, tumors, infective lesions, and birth defects. Seizures are controllable with medication in about 70% of cases. Inexpensive options are often available. In those whose seizures do not respond to medication, surgery, neurostimulation, or dietary changes may be considered. In its integral form, the BBB is a selective filter that allows passage of essential nutrients, water, some gases, lipid-soluble molecules, hydrophobic molecules (O2, CO2, hormones) and also allows transport of metabolic products to the brain (glucose with specific proteins). It restricts diffusion of microscopic objects (e.g. bacteria) and large hydrophilic molecules and prevents entry of polar and lipid-insoluble substances, and lipophilic neurotoxins. Of interest here are those epileptic treatments rendered possible by the delivery of therapeutic drugs through the disrupted blood brain barrier.

Biography

Alain L Fymat is a Medical-Physical Scientist and an Educator who was educated at the Universities of Bordeaux and Paris-Sorbonne, France, and the University of California at Los Angeles. He is the Current President/CEO and Professor at the International Institute of Medicine & Science. He was formerly Professor of Radiology, Radiological Sciences, Radiation Medicine (Oncology), Critical Care Medicine, and Physics at several US and European Universities. His current research interests lie at the interface between science and medicine (Neurological Disorders; Precision Medicine; Nanobiotechnology; Nanomedicine; Genetics/Epigenetics/Ecogenetics; and Drug Delivery across the brain protective barriers). He has extensively published ~350 scholarly publications and lectured in several national and international academic, professional, governmental and industrial venues. He is a Board Member of several institutions, and Editor-in-Chief, Honorable Editor or Editor of twelve scientific journals.

alain.fymat@fiimas.org