



Neurochemistry

Miguel Nuno Miranda*

Unit of Technology, Conversion and Energy Storage, National Laboratory of Engineering and Geology, Lisboa, Portugal

*Corresponding author: Miguel Nuno Miranda, Unit of Technology, Conversion and Energy Storage, National Laboratory of Engineering and Geology, Lisboa Portugal; Email: miguel.miranda@lneg.pt

Received: December 29, 2020; Accepted: January 15, 2021; Published: January 30, 2021

Editorial

Neurochemistry is the study of the nervous system of chemicals and their reactions. Neurochemistry may cover virtually all the anatomy and physiology of the central and peripheral nervous systems, theoretically a tremendously wide field. Neurochemical research has practically tended to concentrate on endogenous chemicals (particularly neurotransmitters) and non-genetic molecular aspects of the nervous system, the pathogenesis of neuropsychiatric disorders, and the detection of biomarkers of diseases.

Although neurochemistry as a recognized science is fresh, since the 18th century, the concept behind neurochemistry has been around. Originally, aside from the peripheral nervous system, the brain was considered to be a distinct body. There was a chain of studies that debunked the concept from the beginning. The brain's chemical composition was almost similar to the peripheral nervous system's makeup. In the study of neurochemistry, the first major leap forward came from Johann Ludwig Wilhelm Thudichum, one of the pioneers in the field of brain chemistry. He was one of the first to believe that certain neurological disorders could be due to an imbalance of brain chemicals.

The L-DOPA experiment was one of the first important achievements in the use of chemicals to change brain function. The patient experienced a dramatic decrease in tremors immediately after the injection, and they were able to regulate their muscles in ways they hadn't been able to in a long time. Within 2.5 hours, the impact peaked and lasted about 24 hours.

In neurochemistry, one of the main fields of study is looking into how post-traumatic stress disorder affects the brain. Fluctuations in the number of neurotransmitters will determine when an episode of PTSD occurs and how long the episode lasts. The effect of dopamine is less than that of norepinephrine. Various neurochemicals can affect various parts of the brain. Neurochemistry became a recognized discipline in scientific research in the 1950s. The development of neurochemistry as a discipline has its roots in a series of "International Neurochemical Symposia" entitled Biochemistry of the Developing Nervous System, the first volume of the symposium published in 1954.

Four Important Brain Chemicals

Dopamine.

Glutamate.

Norepinephrine.

Many neurochemicals are electro-active and are thus capable of being detected by voltammetry.