

Progress of neuroendocrine modulators in the field of pediatric neurorehabilitation

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Abstract

Many endocrine regulators are widely expressed and secreted in the brain, and play important neuromodulatory roles in physiological and pathological processes such as brain development, brain function protection, and brain injury repair. In addition, many endocrine regulators undergo significant changes in the serum and cerebrospinal fluid of neurological diseases and can be used as biological markers for early diagnosis, prognosis and treatment of diseases. In recent years, significant progress has been made in understanding the effects of endocrine modulators on pediatric neurological diseases, especially epilepsy, dravet syndrome, autism spectrum disorder, cerebral palsy and ADHD. These advances stem from a series of research advances on specific endocrine regulators such as melatonin, leptin and ghrelin, as well as ketogenic diet (KD). KD is a nutritional therapy that has been found to be beneficial against refractory epilepsy, and has also been proposed to treat many other neurological disorders. Recently, we opened a column in the magazine "Frontiers in Endocrinology" in collaboration with scholars from Italy and India: "Endocrine Modulators of Neurological Processes: Potential Treatment Targets of Pediatric Neurological Diseases". Here, we summarize the new progress of the articles published in the column, hoping to provide useful clues for future research.

the Institute of Pediatrics, Suzhou University. He is now a member of the Chinese Society of Microcirculation Council and a member of the Brain Science Committee of the Chinese Medical Association Pediatrics Branch.



Speaker Publications:

1. "Editorial: The Developmental Seizure-Induced Hippocampal Mossy Fiber Sprouting: Target for Epilepsy Therapies Front. Neurol., 13 November 2019
2. "Long-Term Effects of Zinc Deficiency and Zinc Supplementation on Developmental Seizure-Induced Brain Damage and the Underlying GPR39/ZnT-3 and MBP Expression in the Hippocampus, Front. Neurosci., 04 September 2019
3. "Reduction of Mitophagy-Related Oxidative Stress and Preservation of Mitochondria Function Using Melatonin Therapy in an HT22 Hippocampal Neuronal Cell Model of Glutamate-Induced Excitotoxicity, Front. Endocrinol., 08 August 2019

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Biography:

Ni Hong has completed his PhD and works in the Children's Hospital of Soochow University (China) as Pediatric Neurologist with main interest in Pediatric neurological rehabilitation, cerebral palsy and epilepsy since 1995. He is a professor and director of the Department of Brain Sciences at