EDITORIAL

Thematic Selection: Strategies of Current Drugs and Alternative Treatments for Neurodegenerative Diseases

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It is our pleasure to organise this thematic issue: strategies of current drugs and alternative treatments for neurodegenerative diseases, and to share the varied theory and/or experience about therapy of drugs from bench to bed. Neurodegenerative diseases, all are a group of intractable disorders in CNS: the prevalence from rare to common, and the onset from younger to older, with a little difference across the human races. In 2015, TU Youyou won the Nobel Prize, as a herbal pharmacologist for her great contribution in the novel designing therapy against malaria with Artemisinin, as the active agent in that plant extract of Traditional Chinese Medicinal Herbs, reduced significantly the mortality rates for patients.

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Currently, the conventional treatment for Parkinson's disease (PD) mainly is based on levodopa supplement (Gold Standard) and others. However, partial patients stayed non-sensitive to the classical drug use. Besides, long-term and intermittent use of levodopa is clinically associated with motor complications, such as freezing foot or freezing of gait, which has been a more troublesome question in PD treatment process. Recently alternative treatments: deep brain stimulation (DBS), neuroprotective agents, and Medicinal herbs have gradually been widely used in practice. Alzheimer's disease (AD) is characterized by loss of neurons and synapse in cortex and subcortex. The amyloid, plaques and neurofibrillary tangles are clearly observed in the AD brain. Some completing treatment hypotheses have existed for decades: Cholinergic hypothesis, amyloid hypothesis and Tau hypothesis, as well as the idea of traditional Chinese medicine, *e.g.*, Ginkgo, *S. officinalis* and *S. lavandulaefolia*, for promoting memory and improving the cognitive functions. Wilson's disease (WD), or hepatolenticular degeneration, is an autosomal recessive inheritance disorder of copper metabolism caused by ATP7B gene mutation. Approximately 80% of WD patients are better controlled in the authors' experience of anticopper and the liver/brain protective managements, so recommended that the treatment for WD is integrated traditional Chinese with modern medicines. Moreover, attention should be also paid to other kind of rare refractory disorder: motor neuronal disease or amyotrophic lateral sclerosis (ALS). It is worthy to emphasize that the majority of authors would hope to introduce the scientific contribution of alternative treatments: from the cell-protective effects to the chemical target treatments out of the traditional Chinese medicinal herbs.

Keywords: Neurodegenerative diseases; Parkinson's disease; Alzheimer's disease; Wilson's disease; amyotrophic lateral sclerosis; freezing of gait; drug development; alternative medicine; traditional Chinese medicine.

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