Acta Scientific Neurology

Volume 1 Issue 1 October 2018

Short Communication

Treating Alzheimer's Disease with a Combination Therapy

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Received: September 12, 2018; **Published:** September 28, 2018

A plague affecting humanity, Alzheimer's Disease (AD), afflicts millions of people, all suffering a debilitating progressive loss of cognitive mental function. A new approach toward AD treatment is summarized here from three of my previously published articles. These together address this aim. The articles are: [1] "A New Direction for Alzheimer's Research" presenting the concept that AD is a disease of four major etiologies, each requiring a combination of therapies directed against the individual causes of the disease [2]. "Alzheimer's Disease: Multiple Causes Requiring Multiple Therapies" reviews the important evidence for multiple etiologies for the disease and the necessity for specific therapy for each [3]. "A Unique and Promising Combination of Medications for the treatment of Alzheimer's Disease "provides a specific combination of drugs selected, each to inhibit one or more of the four major etiologies of AD.

The four major etiologies of AD identified from the review of the literature are

1. Mitochondrial dysfunction secondary to cerebrovascular hypo-perfusion and oxidative stress [4].
2. Abnormal protein deposits (inclusions), primarily amyloid pathologies but including other misfolded proteins also found in other neuro-degenerative diseases [5].
3. Oxidative stress, the damaging effects from reactive oxygen species (ROS) produced in several pathological processes [6].
4. Neuro-inflammation in association with microglial and astrocytic dysfunction [7].

A Combination of drugs is suggested to inhibit the four major AD etiologies [3]. The drugs are

1. Methylene blue which supports mitochondria function,
2. Nilotinib (or an alternative rilnenidine), to remove pathological protein inclusions,
3. T rental and nicergoline to enhance cerebral blood flow and inhibit inflammation and
4. Pyridoxamine to inhibit oxidative stress. These drugs are used for various clinical purposes and so can be used "off label' in this treatment regimen.

The Dementia Severity Rating Scale is the best for cognitive assessment and evaluation of therapy. Xie., *et al*. 2009 [8] showed a steady increase of approximately 4.5 points per year in cognitive decline in 702 patients over 7 tears using this measurement method.

In summary, using evidence detailed in the three articles referred to above, a promising approach toward an effective Alzheimer's Disease is offered.

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