

## ‘Natural Shield’ Against Alzheimer’s Disease!

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### Abstract

Alzheimer’s disease (AD) is a growing public health problem, particularly, among the elderly population in developing countries, whose aging population is increasing rapidly. Despite all the scientific efforts, there are no effective pharmacotherapeutic options for prevention and treatment of Alzheimer’s disease till date. In view of this, we would like to quote few interesting research reports in this perspective about a nutraceutical product which might revolutionize the preventive and treatment strategies of Alzheimer’s disease in the field of medicine.

**Key words:** Alzheimers disease, Anti aging, Dementia, Elderly people, Geriatric medicine, Longevity

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### I. Manuscript

Alzheimer’s disease (AD) and various other forms of dementia are a growing public health problem in developing countries, particularly, amongst the elderly population, whose aging population is augmenting rapidly. Based on a report by the World Health of Organization (WHO), it is estimated that by the year 2020, approximately 70% of the world’s population aged 60 and above will be living in developing countries with this devastating neuronal disorder [1]. AD is generally characterized by the formation of two main protein aggregates in the brain, ie. senile plaques consisting of amyloid-(A) and neurofibrillary tangles (NFT), which are composed mainly of the microtubule –associated protein tau. This microtubule system is believed to be disrupted with concomitant axonal transport deficits and degeneration in the neurons of the individuals with AD. Hence, both A $\beta$  and tau are the prime targets for disease-modifying therapies [2]. A number of additional pathogenic mechanisms have also been described, possibly overlapping with A $\beta$  plaques and NFT formation, including inflammation, oxidative damage, iron and cholesterol deregulation [2-4]. The continuing expansion of life expectancy, leading to a fast growing number of patients with dementia neuronal disorders, particularly AD, has led to an enormous increase in today’s research era with the main focus on the discovery of drugs for primary, secondary or tertiary prevention of the disease. Despite all the scientific efforts, there are no effective pharmacotherapeutic options for prevention and treatment of AD till date.

In view of this, we would like to quote an interesting research report that the incidence rates for AD has been lower in Asian countries than in the industrialized world. In addition, there is also a demographic variation in incidence rates of AD with lower occurrence in rural north India and countries bordering the Himalayas [5]. Though the exact reason is unknown, a careful review of literature revealed that dietary consumption of *Shilajit* (*rasayana*), a millenary product of nature is common amongst Asian population.

*Shilajit*, used by the Ayurvedic medicine since centuries, is also known in the north of India as salajit, shilajatu, mimie, or mummiyo which is a blackish-brown powder or an exudate from high mountain rocks, especially in the Himalayan mountains between India and Nepal. It is also found in Afghanistan, Bhutan, China, Pakistan and Tibet. Other names for *shilajit* include asphaltum, girj, mineral pitch. This natural derivative has been considered as nectar or amrit of God to mankind to remain young always and to become immortal. Its main composition includes humic substances such as fulvic acids, humins and humic acids etc. Fulvic acid, the biologically active compound is well known for its memory enhancing property and is a potential antiaggregation factor of tau protein *in vitro*. In addition, it possesses the following therapeutic properties such as: antioxidant, anti-inflammatory, antiallergic, immunomodulatory, antidiabetic, anxiolytic, in addition, as a

cognitive and memory enhancer with an ability to interact positively with other drugs [6]. It is also believed to arrest aging and produce rejuvenation. Though *shilajit* possess excellent anti alzheimer's and anti-ageing properties, its scientific research evidence is yet to be explored in the field of allopathic medicine.

Given this, it is necessary that *shilajit* break the cultural paradigm and enter into the rest of the world by the hand of rigorous research at the molecular and cellular levels, which could elucidate the interactions of the active ingredients of the different *shilajit* preparations with biomolecules followed by clinical translational studies. These research explorations might revolutionize the preventive and treatment strategies of AD benefitting geriatric population at large numbers.

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### Disclosure Statement

The authors deny any conflicts of interest related to this manuscript.

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