

Dementia 2019: A review on advanced pharmacological therapies to treat Alzheimer's dementia- University Uttar Pradesh, India.

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Alzheimer's dementia (AD) is increasingly being recognized as one of the most important medical and social problems in older people in industrialized and non-industrialized nations. Alzheimer's disease is characterized by the development of senile plaques and neurofibrillary tangles, which are associated with neuronal destruction, particularly in cholinergic neurons. To date, only symptomatic treatments exist for this disease, all trying to counterbalance the neurotransmitter acetyl choline degradation within synapses are the mainstay of therapy. Donepezil, rivastigmine, and galantamine are safe but have potentially bothersome cholinergic side effects. Three acetylcholinesterase inhibitors appear to be effective, currently available and have been approved for the treatment of mild to moderate AD. A further therapeutic option available for moderate to severe AD is memantine, an N-methyl-D-aspartate receptor noncompetitive antagonist. Treatments capable of stopping or at least effectively modifying the course of AD, referred to as 'disease-modifying' drugs, are still under extensive research. To block the progression of the disease they have to interfere with the pathogenic steps responsible for the clinical symptoms, including the deposition of extracellular amyloid β plaques and intracellular neurofibrillary tangle formation, inflammation, oxidative damage, iron deregulation and cholesterol metabolism. In this review we discuss current symptomatic treatments and new potential disease-modifying therapies for AD that are currently being studied in phase I-III trials.

Keywords: Alzheimer's disease, amyloid fibrils, senile plaques, acetylcholinesterase inhibitors, dis-

ease-modifying drugs, inflammation, tau protein, therapeutic targets.

Vascular dementia (VaD) is heterogeneous in its clinical, imaging, and etiological characteristics. Although VaD is common in India, its pattern is not completely known. In a hospital-based cohort, we aimed to characterize VaD by its subtypes and study patterns of risk factors and clinical, and neuropsychological profiles. Vascular mechanisms, known to have racial and genetic variations were identified. NINDS-AIREN criteria were used to diagnose VaD. Patients were subtyped into subcortical, cortical, cortical-subcortical, and strategic infarct dementia. Vascular mechanisms were detected by vascular imaging, cardiac evaluation, and laboratory tests. In the 42 consecutive patients with VaD, subcortical dementia was the most common type (52.4%), followed by cortical-subcortical (26.2%), strategic infarcts in (14.3%), and cortical dementia (7.1%). Stroke (81%), hypertension (71.4%), and diabetes (35.7%) were important risk factors. Small artery disease was the underlying vascular mechanism in 42.9%; intracranial large artery disease, in 16.7%; extracranial disease, in 2.3%; cardioembolism, in 2.3%; multiple mechanisms, in 19%; and unknown, in 16.7%. Subtypes were similar in risk factor profile and neuropsychological features but differed in clinical characteristics and vascular mechanisms. Gait disorder (59.1% vs. 0%) and urinary symptoms (77.3% vs. 16.7%) were more common in subcortical dementia than in strategic infarct dementia ($P < .05$). Small artery disease was most common in subcortical dementia (72.7%). Intracranial large artery disease was associated with

all subtypes. The pattern of VaD demonstrated in our study is a reflection of mechanisms of cerebrovascular disease in India. Outcome depends on underlying mechanisms and thus is likely to differ from that in other ethnic populations.

Results: The prevalence of private network type was 64.4% in urban China and 1.6% in rural China, while the prevalence of locally integrated type was 6.6% in urban China and 86.8% in rural China. The adjusted pooled estimates across (a) all countries and (b) Latin America showed that, compared to the locally integrated social network type, the locally self-contained [(b) HR = 1.24, 95%CI 1.01–1.51], family dependent [(a) HR = 1.13, 95%CI 1.01–1.26; (b) HR = 1.13, 95%CI

1.001–1.28], and private [(a) HR = 1.36, 95%CI 1.06–1.73; (b) HR = 1.45, 95%CI 1.20–1.75] social network types were significantly associated with higher mortality risk.

Conclusion: Survival time is significantly reduced in individuals embedded in restricted social networks (i.e. locally self-contained, family dependent, and private network types). Social care interventions may be enhanced by addressing the needs of those most at risk of neglect and deteriorating health. Health policy makers in developing countries may use this information to plan efficient use of limited resources by targeting those embedded in restricted social networks.