

Mild cognitive impairment due to Alzheimer disease: Contemporary approaches to diagnostics and pharmacological intervention

Bachurin S.O.

Gavrilova S.I.

Samsonova A.

Barreto G.E.

Aliev G.

Alzheimer disease (AD) and related forms of dementia are among the main medical and social problems in the economically developed countries. It is connected with significant increase in human life span in these regions and with the absence of efficient medicines for treatment and prevention of such diseases. Lack of positive results in the developing of novel drugs for AD treatment stimulates special attention on problem of early diagnosis and drug discovery for pharmacotherapy on the very early stages of dementia, in particular, on mild cognitive impairments (MCI) due to AD. Here we review the state of art in the field of MCI diagnostics and analyze the data on the pharmacological agents developed for MCI treatment, which currently are in preclinical and clinical trials. The conclusion was made that only the agents that act on the very early pathogenetic stages of the disease, when the damage of cholinergic neurons is not observed, can be efficient for pharmacotherapeutic intervention of MCI. Therefore, the focused search and design of ?disease-modifying? medicines should be accepted as the most (and may be the only) efficient strategy for treatment and prevention of MCI. © 2017

Alzheimer's disease

Clinical trial and AD treatment

Disease-modifying drugs

Multitargeting compounds

Neurodegenerative disease

Repositioning of old drugs

ABC transporter subfamily B

alicapistat

an 2

ban 2401

bca 909

bosutinib

brexanolone

df 302

donepezil

elenbecestat

gre 213

itanapraced

ladostigil

levetiracetam

ly 2599666

ly 3002813

microRNA

montelukast

neuroprotective agent

nnz 2591

phenserine

pioglitazone

sar 228810

suvn 502

tak 71

tesamorelin

tropisetron

ue 2343

unclassified drug

unindexed drug

verubecestat

biological marker

Alzheimer disease

cerebrospinal fluid analysis

cholinergic nerve cell

disease course

drug effect

drug screening

human

metabolomics

mild cognitive impairment

nerve cell lesion

nerve degeneration

neuroimaging

nonhuman

priority journal

Review

risk factor

animal

cognitive defect

metabolism

Alzheimer Disease

Animals

Biomarkers

Cognitive Dysfunction

Humans