Cholinesterase inhibitors for Alzheimer's disease: Multitargeting strategy based on anti-Alzheimer's drugs repositioning

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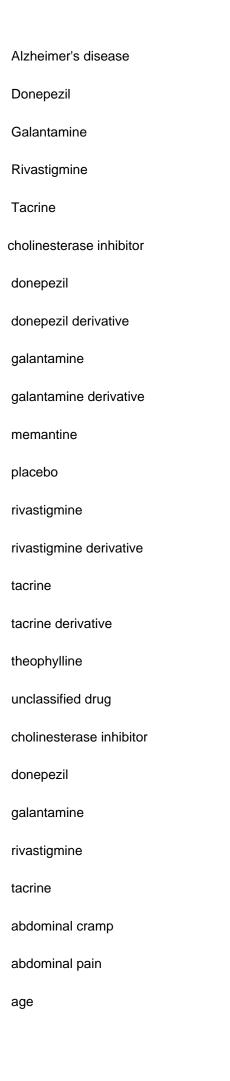
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In the brain, acetylcholine (ACh) is regarded as one of the major neurotransmitters. During the advancement of Alzheimer's disease (AD) cholinergic deficits occur and this can lead to extensive cognitive dysfunction and decline. Acetylcholinesterase (AChE) remains a highly feasible target for the symptomatic improvement of AD. Acetylcholinesterase (AChE) remains a highly viable target for the symptomatic improvement in AD because cholinergic deficit is a consistent and early finding in AD. The treatment approach of inhibiting peripheral AChE for myasthenia gravis had effectively proven that AChE inhibition was a reachable therapeutic target. Subsequently tacrine, donepezil, rivastigmine, and galantamine were developed and approved for the symptomatic treatment of AD. Since then, multiple cholinesterase inhibitors (ChEIs) have been continued to be developed. These include newer ChEIs, naturally derived ChEIs, hybrids, and synthetic analogues. In this paper, we summarize the different types of ChEIs which are under development and their respective mechanisms of actions. © 2019 Bentham Science Publishers B.V.. All rights reserved.

Acetylcholine

Acetylcholinesterase inhibitors



anorexia
cholinergic system
diarrhea
dizziness
drug absorption
drug blood level
drug efficacy
drug elimination
drug half life
drug mechanism
drug structure
dyspepsia
faintness
fatigue
human
hypertransaminasemia
insomnia
liver toxicity
muscle cramp
nausea
neurofibrillary tangle
plasma clearance
priority journal
Review
time to maximum plasma concentration

Alzheimer disease

Alzheimer Disease
Cholinesterase Inhibitors
Donepezil
Drug Repositioning
Galantamine
Humans
Rivastigmine
Tacrine

vomiting

drug repositioning