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## Detection of severity in Alzheimer's disease (AD) using computational modeling

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The prevalent cause of dementia - Alzheimer's disease (AD) is characterized by an early cholinergic deficit that is in part responsible for the cognitive deficits (especially memory and attention defects). Prolonged AD leads to moderate-to-severe AD, which is one of the leading causes of death. Placebo-controlled, randomized clinical trials have shown significant effects of Acetyl cholin esterase inhibitors (ChEIs) on function, cognition, activities of daily living (ADL) and behavioral symptoms in patients. Studies have shown comparable effects for ChEIs in patients with moderate-to-

severe or mild AD. Detection of changed regional cerebral blood flow in mild cognitive impairment and early AD by perfusion-weighted magnetic resonance imaging has been a challenge. We designed an automated system for the determination of AD severity. It is used to predict the clinical cases and conditions with disagreements from specialist. The model described is useful in clinical practice to validate diagnosis.

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