

# Review: Pharmacologic and nonpharmacologic interventions improve outcomes in patients with dementia and for their caregivers

Doody RS, Stevens JC, Beck C, et al. Practice parameter: management of dementia (an evidence-based review). Report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology*. 2001 May 8;56:1154-66.

## QUESTION

Do pharmacotherapy, educational, or other nonpharmacologic interventions improve outcomes in patients with dementia or for their caregivers?

## DATA SOURCES

Studies were identified by searching MEDLINE, EMBASE/Excerpta Medica, CINAHL, *Current Contents*, Psychological Abstracts, PsycInfo, and the Cochrane databases with terms that include Alzheimer disease (AD), vascular or multi-infarct dementia, dementia with associated parkinsonian disorder, progressive supranuclear palsy, frontotemporal dementia, and senile dementia. Additional terms used were question specific. Bibliographies of relevant papers were also reviewed.

## STUDY SELECTION

Studies were selected if they were randomized controlled trials published in any language or other types of studies published in English with > 20 participants.

## DATA EXTRACTION

Data were extracted on study quality, participant characteristics, interventions, outcome measures, and results.

## MAIN RESULTS

380 articles met the selection criteria. Several studies comparing cholinesterase inhibitors (e.g., tacrine, donepezil, tartrate, and galantamine) with placebo showed that these drugs were more effective than placebo for improving cognitive outcomes in a subgroup of patients with mild-to-moderate AD. Studies of cholinergic precursors (e.g., lecithin) and muscarinic agonists (e.g., xanomeline) for the treatment of AD have not shown beneficial effects. 1 large 2-year study showed that selegiline, 5 mg taken orally twice daily, and vitamin E, 1000 IU taken orally twice daily, delayed the time to a composite outcome indicator of clinical worsening of AD symptoms; however, no additive effects were seen from the combined use of selegiline and vitamin E. Data are lacking to support the use of other antioxidant or anti-inflammatory drugs or other putative disease-modifying drugs in the treatment of AD. Antipsychotic drugs were effective for treating agitation or psychosis in patients with dementia in whom environmental manipulation failed, and antidepressants (e.g., selected tricyclics, monoamine oxidase-B inhibitors, and selective serotonin-reuptake inhibitors) were effective for treating depression in patients with dementia. Evidence

from observational studies showed that educating family caregivers of patients with AD improved caregiver satisfaction and delayed time to patient's institutionalization and that educating staff in long-term care facilities about AD minimized the unnecessary use of antipsychotic drugs. Randomized trials have shown that behavior modification, scheduled toileting, and prompted voiding reduced urinary incontinence in people with dementia. Graded assistance, skills practice, and positive reinforcement increased functional independence.

## CONCLUSIONS

Cholinesterase inhibitors improve outcomes in some patients with Alzheimer disease (AD). Antipsychotics may be effective for treating agitation and antidepressants may be effective for treating depression in patients with dementia. Education for family caregivers of patients with AD may improve caregiver and patient outcomes. Such nonpharmacologic interventions as behavioral modification are also effective.

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## COMMENTARY

The guidelines by Doody and colleagues provide an excellent review of the current literature on the use of pharmacologic and nonpharmacologic (including educational) interventions for the management of AD. Furthermore, the authors offer sensible recommendations for future research.

Doody and colleagues used rigorous methods to complete a broad review of the literature on the management of dementia. Although the Cochrane databases were consulted, none of the relevant Cochrane reviews were cited (e.g., the reviews on selegiline [1] and thioridazine [2]). The authors suggest that the guideline is directed to neurologists and all other clinicians who manage dementia, but they do not state that it is targeted specifically to primary care physicians. Other guidelines targeted specifically to primary care physicians have been published by a Canadian group (3, 4).

Although Doody and colleagues offer guidelines for the use of the cholinesterase inhibitors (primarily donepezil, rivastigmine, and galantamine), they point out that because no head-to-head trials of these drugs exist, they cannot recommend one over the others. Therefore, at present, the differences in dosing schedules and adverse-effect profiles should be considered when choosing which drug to use.

In addition to excellent studies on the use of drug therapy in patients with AD, good evidence exists in support of nonpharmacologic interventions. Educational and nonpharmacologic interventions are probably underused by many but may be as effective as drug therapy and do not present the burdens of drug-related adverse effects.

These guidelines provide an excellent summary of managing patients with dementia from a broad perspective, and clinicians from a variety of practice settings will find them useful.

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## References

1. Birks J, Flicker L. Selegiline for Alzheimer's disease. *Cochrane Database Syst Rev*. 2001;(2):CD000442.
2. Kirchner V, Kelly CA, Harvey RJ. Thioridazine for dementia. *Cochrane Database Syst Rev*. 2001;(2):CD000464.
3. Clarfield AM, Bass MJ, Cohen C, et al. Assessing dementia: the Canadian Consensus [Editorial]. *Can Med Assoc J*. 1991;144:851-3.
4. Patterson CJ, Gauthier S, Bergman H, et al. The recognition, assessment and management of dementing disorders: conclusions from the Canadian Consensus Conference on Dementia. *Can Med Assoc J*. 1999;160(12 Suppl):S1-15.