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Geriatrics update 2018: Challenges in mental health, mobility, and postdischarge care

ABSTRACT

A review of articles on geriatric topics from 2017 and 2018 revealed evidence supporting exercise for the elderly, early mobility for hospitalized patients, and oral anticoagulant therapy for atrial fibrillation to support cognitive function, and evidence against antipsychotic drugs for dementia-associated behaviors. No silver bullet was found for Alzheimer prevention or therapy.

KEY POINTS

Oral anticoagulant treatment for atrial fibrillation helps preserve cognitive function.

Antipsychotics are not recommended as initial therapy for dementia-associated behavioral disturbances or for hospitalization-induced delirium.

A multicomponent inpatient program can help prevent postoperative delirium in hospitalized patients.

The US Preventive Services Task Force recommends exercise to prevent falls.

Early mobility should be encouraged for hospitalized patients.

Better continuity of care between hospitals and skilled nursing facilities can reduce hospital readmission rates.

Unveiled a breakthrough for preventing or treating cognitive impairment or Alzheimer disease. But several studies from the last 2 years are helping to drive the field of geriatrics forward, providing evidence of what does and does not help a variety of issues specific to the elderly.

Based on a search of the 2017 and 2018 literature, this article presents new evidence on preventing and treating cognitive impairment, managing dementia-associated behavioral disturbances and delirium, preventing falls, and improving inpatient mobility and posthospital care transitions.

COGNITIVE IMPAIRMENT, DEMENTIA: STILL NO SILVER BULLET

With the exception of oral anticoagulation treatment for atrial fibrillation, there is little evidence that pharmacologic or nonpharmacologic interventions slow the onset or progression of Alzheimer disease.

Nonpharmacologic interventions

Home occupational therapy. A 2-year home-based occupational therapy intervention¹ showed no evidence of slowing functional decline in patients with Alzheimer disease. The randomized controlled trial involving 180 participants consisted of monthly sessions of an intensive, well-established collaborative-care management model that included fall prevention and other safety strategies, personalized training in activities of daily living, exercise, and education. Outcome measures for activi-

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ties of daily living did not differ significantly between the treatment and control groups.¹

Physical activity. Whether physical activity interventions slow cognitive decline and prevent dementia in cognitively intact adults was examined in a systematic review of 32 trials.² Most of the trials followed patients for 6 months; a few stretched for 1 or 2 years.

Evidence was insufficient to prove cognitive benefit for short-term, single-component or multicomponent physical activity interventions. However, a multidomain physical activity intervention that also included dietary modifications and cognitive training did show a delay in cognitive decline, but only "low-strength" evidence.²

Nutritional supplements. The antioxidants vitamin E and selenium were studied for their possible cognitive benefit in the double-blind randomized Prevention of Alzheimer Disease by Vitamin E and Selenium trial³ in 3,786 asymptomatic men ages 60 and older. Neither supplement was found to prevent dementia over a 7-year follow-up period.

A review of 38 trials⁴ evaluated the effects on cognition of omega-3 fatty acids, soy, ginkgo biloba, B vitamins, vitamin D plus calcium, vitamin C, beta-carotene, and multi-ingredient supplements. It found insufficient evidence to recommend any over-the-counter supplement for cognitive protection in adults with normal cognition or mild cognitive impairment.

Pharmacologic treatments

Testosterone supplementation. The Testosterone Trials tested the effects of testosterone gel vs placebo for 1 year on 493 men over age 65 with low testosterone (< 275 ng/mL) and with subjective memory complaints and objective memory performance deficits. Treatment was not associated with improved memory or other cognitive functions compared with placebo.⁵

Antiamyloid drugs. A randomized, double-blind, placebo-controlled trial in nearly 2,000 patients evaluated verubecestat, an oral beta-site amyloid precursor protein-cleaving enzyme-1 inhibitor that reduces the amyloid-beta level in cerebrospinal fluid.⁶

Verubecestat did not reduce cognitive or functional decline in patients with mild-tomoderate Alzheimer disease, while adverse events including rashes, falls, injuries, sleep disturbances, suicidal ideation, weight loss, and hair color change were more common in the treatment groups. The trial was terminated early because of futility at 50 months.

And in a placebo-controlled trial of solanezumab, a monoclonal antibody directed against the amyloid beta peptide, no benefit was demonstrated at 80 weeks in more than 2,000 patients with Alzheimer disease.⁷

Multiple common agents. A well-conducted systematic review⁸ of 51 trials of at least a 6-month duration did not support the use of antihypertensive agents, diabetes medications, nonsteroidal anti-inflammatory drugs, aspirin, hormones, or lipid-lowering drugs for cognitive protection for people with normal cognition or mild cognitive impairment.

However, some studies found reassuring evidence that standard therapies for other conditions do not worsen cognitive decline and are protective for atrial fibrillation.⁸

Proton-pump inhibitors. Concern exists for a potential link between dementia risk and proton-pump inhibitors, which are widely used to treat acid-related gastrointestinal disorders.⁹

A prospective population-based cohort study¹⁰ of nearly 3,500 people ages 65 and older without baseline dementia screened participants for dementia every 2 years over a mean period of 7.5 years and provided further evaluation for those who screened positive. Use of proton-pump inhibitors was not found to be associated with dementia risk, even with high cumulative exposure.

Results from this study do not support avoiding proton-pump inhibitors out of concern for dementia risk, although long-term use is associated with other safety concerns.

Oral anticoagulation. The increased risk of dementia with atrial fibrillation is well documented.¹¹

A retrospective study¹² based on a Swedish health registry and using more than 444,000 patients covering more than 1.5 million years at risk found that oral anticoagulant treatment at baseline conferred a 29% lower risk of dementia in an intention-to-treat analysis and a 48% lower risk in on-treatment analysis compared with no oral anticoagulation therapy. No difference was found between new oral anticoagulants and warfarin.

No cognitive benefits found for vitamins B, C, D, and E, selenium, testosterone gel, or omega-3 fatty acids

Transcatheter aortic valve implantation is not associated with cognitive decline

For patients with severe aortic stenosis who are not surgical candidates, transcatheter aortic valve implantation is superior to standard medical therapy, but there are concerns of neurologic and cognitive changes after the procedure. A meta-analysis of 18 studies assessing cognitive performance in more than 1,000 patients (average age \geq 80) after undergoing the procedure for severe aortic stenosis found no significant cognitive performance changes from baseline perioperatively or 3 or 6 months later.

■ TREATING DEMENTIA-ASSOCIATED BEHAVIORAL DISTURBANCES

Behavioral and psychiatric symptoms often accompany dementia, but no drugs have yet been approved by the US Food and Drug Administration (FDA) to address them in this population. Nonpharmacologic interventions are recommended as first-line therapy.

Antipsychotics are not recommended

Antipsychotics are often prescribed, ¹⁶ although they are associated with metabolic syndrome ¹⁷ and increased risks of stroke and death. ¹⁸ The FDA has issued black box warnings against using antipsychotics for behavioral management in patients with dementia. Further, the American Geriatrics Society and the American Psychiatric Association do not endorse using them as initial therapy for behavioral and psychological symptoms of dementia. ^{16,19}

The Centers for Medicare and Medicaid Services partnered with nursing homes to improve the quality of care for patients with dementia, with results measured as the rate of prescribing antipsychotic medications. Although the use of psychotropic medications declined after initiating the partnership, the use of mood stabilizers increased, possibly as a substitute for antipsychotics.²⁰

Dextromethorphan-quinidine use is up, despite modest evidence of benefit

A consumer news report in 2017 stated that the use of dextromethorphan-quinidine in long-term care facilities increased by nearly 400% between 2012 and 2016.²¹

Evidence for its benefits comes from a 10-week, phase 2, randomized controlled trial conducted at 42 US study sites with 194 patients with probable Alzheimer disease. Compared with the placebo group, the active treatment group had mildly reduced agitation but an increased risk of falls, dizziness, and diarrhea. However, rates of adverse effects were low, and the authors concluded that treatment was generally well tolerated.²²

Pimavanserin: No long-term benefit for psychosis

In a phase 2, randomized, double-blind, placebo-controlled trial in 181 patients with possible or probable Alzheimer disease and psychotic symptoms, pimavanserin was associated with improved symptoms as measured by the Neuropsychiatric Inventory–Nursing Home Version psychosis score at 6 weeks, but no difference was found compared with placebo at 12 weeks. The treatment group had more adverse events, including agitation, aggression, peripheral edema, anxiety, and symptoms of dementia, although the differences were not statistically significant.²³

DELIRIUM: AVOID ANTIPSYCHOTICS

Delirium is common in hospitalized older adults, especially those who have baseline cognitive or functional impairment and are exposed to precipitating factors such as treatment with anticholinergic or narcotic medications, infection, surgery, or admission to an intensive care unit.²⁴

Delirium at discharge predicts poor outcomes

In a prospective study of 152 hospitalized patients with delirium, those who either did not recover from delirium or had only partially recovered at discharge were more likely to visit the emergency department, be rehospitalized, or die during the subsequent 3 months than those who had fully recovered from delirium at discharge.²⁵

Multicomponent, patient-centered approach can help

A randomized trial in 377 patients in Taiwan evaluated the use of a modified Hospital Elder Life Program, consisting of 3 protocols focused

No increased dementia risk with proton-pump inhibitors or transcatheter aortic valve implantation

on orienting communication, oral and nutritional assistance, and early mobilization. Patients were at least 65 years old and undergoing elective abdominal surgery with expected length of hospital stay longer than 6 days. The program, administered daily during hospitalization, significantly lowered postoperative delirium by 56% and hospital stay by 2 days compared with usual care.²⁶

Prophylactic haloperidol does not improve outcomes

In a multicenter randomized, double-blind, placebo-controlled trial, van den Boogaard et al studied prophylactic intravenous haloperidol in nearly 1,800 critically ill patients at high risk of delirium.²⁷ Haloperidol did not improve survival at 28 days compared with placebo. For secondary outcomes, including delirium incidence, delirium-free and comafree days, duration of mechanical ventilation, and hospital and intensive care department length of stay, treatment was not found to differ statistically from placebo.

Antipsychotics may worsen delirium

A double-blind, parallel-arm, dose-titrated randomized trial, conducted at 11 Australian hospices or hospitals with palliative care services, administered oral risperidone, haloperidol, or placebo to 247 patients with life-limiting illness and delirium. Both treatment groups had higher delirium symptom scores than the placebo group.²⁸

In addition, a systematic review and metaanalysis of 19 studies found no benefit of antipsychotic medications for preventing or treating delirium in hospitalized adults.²⁹

Antipsychotics are often continued indefinitely

A retrospective chart review at a US academic health system found³⁰ that among 487 patients with a new antipsychotic medication prescribed during hospitalization, 147 (30.2%) were discharged on an antipsychotic. Of these, 121 (82.3%) had a diagnosis of delirium. Only 15 (12.4%) had discharge summaries that included instructions for discontinuing the drug.

Another US health system retrospectively reviewed antipsychotic use and found³¹ that out of 260 patients who were newly exposed to an antipsychotic drug during hospitalization,

146 (56.2%) were discharged on an antipsychotic drug, and 65% of these patients were still on the drug at the time of the next hospital admission.

EXERCISE, EXERCISE, EXERCISE

Exercise recommended, but not vitamin D, to prevent falls

In 2018, the US Preventive Services Task Force updated its recommendations for preventing falls in community-dwelling older adults.³² Based on the findings of several trials, the task force recommends exercise interventions for adults age 65 and older who are at increased risk for falls. Gait, balance, and functional training were studied in 17 trials, resistance training in 13, flexibility in 8, endurance training in 5, and tai chi in 3, with 5 studies including general physical activity. Exercise interventions most commonly took place for 3 sessions per week for 12 months (range 2–42 months).

The task force also recommends against vitamin D supplementation for fall prevention in community-dwelling adults age 65 or older who are not known to have osteoporosis or vitamin D deficiency.

Early mobilization helps inpatients

Hospitalized older adults usually spend most of their time in bed. Forty-five previously ambulatory patients (age \geq 65 without dementia or delirium) in a Veterans Affairs hospital were monitored with wireless accelerometers and were found to spend, on average, 83% of the measured hospital stay in bed. Standing or walking time ranged from 0.2% to 21%, with a median of only 3% (43 minutes a day).³³

Since falls with injury became a Centers for Medicare and Medicaid Services nonreimbursable hospital-acquired condition, tension has arisen between promoting mobility and preventing falls.³⁴ Two studies evaluating the adoption of mobility-restricting approaches such as bed-alarms, "fall-alert" signs, supervision of patients in the bathroom, and ensuring patients' walking aids are within reach, did not find a significant reduction in falls or fall-related injuries.^{35,36}

A clinically significant loss of community mobility is common after hospitalization in older adults.³⁷ Older adults who developed mo-

Avoid antipsychotics for dementia or delirium

bility impairment during hospitalization had a higher risk of death in a large, retrospective study.³⁸ A large Canadian multisite intervention trial³⁹ that promoted early mobilization in older patients who were admitted to general medical wards resulted in increased mobilization and significantly shorter hospital stays.

POSTHOSPITAL CARE NEEDS IMPROVEMENT

After hospitalization, older adults who have difficulty with activities of daily living or complex medical needs often require continued care.

About 20% of hospitalized Medicare beneficiaries in the United States are discharged to skilled nursing facilities.⁴⁰ This is often a stressful transition, and most people have little guidance on selecting a facility and simply

choose one based on its proximity to home.⁴¹

A program of frequent visits by hospitalemployed physicians and advanced practice professionals at skilled nursing facilities resulted in a significantly lower 30-day readmission rate compared with nonparticipating skilled nursing facilities in the same geographic area.⁴²

Home healthcare is recommended after hospital discharge at a rapidly increasing rate. Overall referral rates increased from 8.6% to 14.1% between 2001 and 2012, and from 14.3% to 24.0% for patients with heart failure. A qualitative study of home healthcare nurses found a need for improved care coordination between home healthcare agencies and discharging hospitals, including defining accountability for orders and enhancing communication.

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GERIATRICS UPDATE 2018

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