Nonconventional Treatments of Cognitive Impairment

In the first part of this article (Psychiatric Times, June 2006, page 41), I pointed out that the numbers of patients with Alzheimer disease (AD), as well as those with severe cognitive impairment caused by traumatic brain injury and stroke, are continuing to increase. I noted that in addition to conventional pharmacologic treatments, promising research findings are being reported for many nonconventional treatments. In that column, I reviewed the more substantiated nonconventional approaches. This month, I look at some approaches for which the evidence is more limited.

HERBS AND SUPPLEMENTS

Kami-untan-to

This compound herbal formula consists of 12 different herbs. It is used in Japanese traditional healing (Kampo) to treat cognitive impairment and frank dementia, as well as other psychiatric symptoms. Animal studies suggest that kami-untan-to (KUT) increases brain levels of both nerve growth factor and choline acetyltransferase, the enzyme that makes acetylcholine.

In a 12-month open trial, 20 patients with moderate dementia and AD who received KUT alone and 7 who received a combined regimen of vitamin E, estragole, and a nonsteroidal anti-inflammatory drug deteriorated at a significantly slower rate than 32 control patients with moderate dementia who received no treatment. The beneficial effects of KUT were most notable 3 months into the study.

Golden root

Golden root (Rhodiola rosea) was the object of intensive research in the former Soviet Union because of its use as a performance enhancer in athletes, soldiers, and cosmonauts. Psychiatric benefits are probably related to increased dopamine, serotonin, and norepinephrine levels in the brain and include improved memory, increased mental stamina, and a general calming effect. Results from open studies suggest that golden root, 500 mg/d, improves overall mental performance and stamina in healthy persons and may accelerate return to normal cognitive functioning following traumatic brain injury. No studies on the use of golden root in dementia have been done.

Acetyl-L-carnitine

This substance occurs naturally in the brain and liver. Its mechanism of action may involve stabilization of nerve cell membranes, stimulation of acetylcholine synthesis, and increased efficiency of mitochondrial energy production. Acetyl-L-carnitine (ALC) is widely used to treat and self-treat cognitive impairments related to dementia or other neurodegenerative diseases; however, findings from human clinical trials are inconsistent.

Three small double-blind placebo-controlled studies show that ALC, 1500 to 3000 mg/d, improves overall performance on tests of reaction time, memory, and cognitive performance in patients with dementia and may slow the overall rate of progression of cognitive impairment. A Cochrane systematic review of 12 double-blind placebo-controlled studies of ALC in dementia confirmed significant positive effects at weeks 12 and 24, but these were not sustained at 1 year with continued treatment. ALC is well tolerated, and there are few reports of adverse effects.

B vitamins

Certain B vitamins are essential enzyme cofactors in the synthesis of neurotransmitters. A diet low in folate and B12 leads to elevated blood levels of homocysteine and decreased synthesis of S-adenosyl methionine (SAMe), resulting in reduced synthesis of several neurotransmitters critical for normal cognitive functioning. Dietary deficiencies of folate and B12 eventually manifest as moderate to severe cognitive impairment.

In a double-blind placebo-controlled study of 5-methyltetrahydrofolate (a form of folate), 50 mg/d, patients with dementia who were depressed experienced significant improvements in both mood and memory after 4 weeks of therapy. However, the relationship between cognitive functioning and folate remains unclear. A Cochrane systematic review of 4 controlled studies concluded that there is insufficient evidence to support the use of folate acid with or without B12 as a treatment for dementia or other forms of severe cognitive impairment. Supplementation with large dosages of thiamine (3 to 8 g/d) may result in mild improvement in cognitive impairment in patients with AD. Few small open studies have evaluated the efficacy of B12 as a cognition-enhancing agent in elderly patients who were moderately impaired and non-demented. Eighteen patients with mild dementia and moderate hypoa-
Persons with dementia when topically applied directly to the face and arms. Possible adverse effects include skin allergies, phototoxic reactions, and potentiation of sedative-hypnotic medications when used with lavender or other oils known to have sedating effects. Pregnant women should exercise caution when considering aromatherapy because of possible effects on the fetus and uterus caused by systemic absorption of certain essential oils.

**Electric current**
The application of weak electric current to the head or neck may temporarily improve memory, behavior, and activities of daily living in patients with dementia. A Cochrane meta-analysis of 3 studies of transcranial electrical nerve stimulation devices used to treat dementia found evidence of significant but transient improvements in word recall, face recognition, and motivation immediately following treatment. Most research findings show that improvements are not sustained 6 weeks or more after treatment is terminated.

**Music**
Music is used in many healing traditions to calm the mind and reduce agitation and behavior. Findings of a meta-analysis evaluating studies of music therapy in persons with dementia show that various approaches—singing, dance, listening to music, and musical games—are associated with improvements in cognitive and behavioral functioning in persons with severe dementia, including reduced agitation, reduced wandering, enhanced social interaction, improved mood, reduced irritability and anxiety, increased cooperative behavior, and improved performance on standardized scales including the Mini-Mental State Examination.

Regular music therapy was shown to reduce irritability and to improve expressive language in persons with dementia. Listening to binaural sounds in the beta frequency range (16 to 24 Hz) using headphones may enhance performance on tests of attention and short-term and immediate recall in healthy volunteers.

**Healing touch**
Open studies, case reports, and one double-blind trial suggest that Healing Touch (HT) and Therapeutic Touch (TT) have beneficial effects on agitation in patients with dementia. In one small open study, measures of agitation were significantly improved in 14 residential patients with dementia who received 3 HT treatments weekly over a 4-week period. Diminished need for psychotropic medications was observed in 3 patients during the active treatment phase, and 2 residents required dose increases in the first 2 weeks after HT treatments were stopped.

In another small, sham-controlled study, 3 weekly 10- to 20-minute HT treatments were administered to patients with AD over a 5-week period. Patients who received regular HT treatments were found to have consistent reductions in disruptive behaviors and globally improved emotional and cognitive functioning, including enhanced socialization, a more regular sleep schedule, improved compliance with nursing home routines, greater emotional stability, and improved communication with staff. In a double-blind study (N = 57) that included mock TT in the control arm, agitated patients with dementia who received 2 brief TT treatments daily for 3 days exhibited significantly fewer behavioral symptoms of dementia, including enhanced social interaction and reduced agitation.
reduced restlessness and fewer disruptive vocalizations, than patients who received mock TT."

Dr Lake is in private practice in Monterey, Calif, and is an adjunct clinical instructor in the department of psychiatry and behavioral sciences at Stanford University in Stanford, Calif. He co-chairs the American Psychiatric Association Caucus on Complementary, Alternative, and Integrative Medicine (www.APACAM.org) and is an author of the soon-to-be-published textbook of Integrative Medical Health Care (Thieme).

References


