Cognition and the menopause transition

Pauline M. Maki, PhD,1 and Victor W. Henderson, MD, MS2

Complaints about forgetfulness, “brain fog,” and difficulty concentrating are common in women transitioning through menopause. Women with these cognitive complaints often express concern about whether these problems are normal, related to menopause, or represent a symptom of Alzheimer disease or another serious cognitive disorder. In this Practice Pearl, we provide a brief summary of the scientific literature on the frequency of cognitive complaints in midlife women, the validity of complaints in relation to performance on standardized cognitive tests, and the influence of menopause on cognitive performance. We then offer recommendations for healthcare providers and women to address cognitive concerns.

Cognitive complaints are common in women transitioning through menopause. In a cross-sectional study of 16,065 women aged 40 to 55 years from the Study of Women’s Health Across the Nation (SWAN), 31% of premenopausal women endorsed complaints of forgetfulness compared with 44% of early perimenopausal women, 41% of late perimenopausal women, and 41% of postmenopausal women.1 Although cognitive complaints also increased with age, age alone did not account for these differences in rates of forgetfulness by menopause stage. Other factors associated with complaints of forgetfulness were: less than a high school education, financial difficulties, unemployment, surgical menopause, past (but not current) smoking, nonwhite race/ethnicity, and low physical activity.1 Notably, although vasomotor symptoms (VMS) are considered the cardinal symptom of menopause, declines in memory were the second most frequent symptom reported in SWAN, after joint stiffness and soreness. Helping women to understand that cognitive complaints are common in menopause can help them to normalize their experience and minimize worry.

ARE COGNITIVE COMPLAINTS VALID?

Studies examining the association between cognitive complaints and objective measures of cognitive performance validate women’s complaints.2,3 For example, a study of 120 women aged 45 to 60 years found that the extent to which women rated attention problems as interfering with their daily function was significantly associated with their scores on a test of attention.2

WHAT ROLE DOES MENOPAUSE PLAY?

Small decrements in some cognitive abilities begin as early as the third decade of life. In addition, evidence from longitudinal studies reveals other small changes in memory performance across the menopause transition that are not accounted for by age or other measured factors.4,5 For example, in a prospective study of 403 participants in the Penn Ovarian Aging Study, verbal learning and memory performance declined from the premenopause stage to the perimenopause and postmenopause stages.4 In SWAN, verbal memory also declined during the menopause transition, but performance rebounded to premenopause stages in the postmenopause period.5 There is evidence of small but statistically significant decreases in attention, processing speed, and other cognitive abilities across the menopause transition. Thus, evidence supports the view that some of the cognitive problems that women experience at midlife are attributable to the menopause transition.

Certain menopause symptoms, including depressive and anxiety symptoms and disturbed sleep, are also related to cognitive performance at midlife but do not appear to explain the menopause-related decline in memory.5 Vasomotor symptoms ratings are related to subjective cognitive complaints but not to objective cognitive performance.6,7

THE CLINICIAN’S ROLE

Healthcare providers should bear in mind that memory, processing speed, and organizational skills modestly decline with normal aging. Changes begin well before midlife, are independent of processes linked to dementia, and can be accentuated during the menopause transition. A perceptive individual, noticing these changes, may understandably become worried. If the history and examination do not raise

Released March 7, 2016

From the 1University of Illinois at Chicago College of Medicine and College of Liberal Arts and Sciences, Chicago, IL; and 2Stanford University, Stanford, CA.
new concerns, the clinician can assure the patient that cognitive symptoms are common, are sometimes associated with the menopause transition, are usually self-limited, and are not known to lead to dementia later in life.

To help rule out a neurologic disorder, a clinician must first decide whether cognitive complaints reflect objective decline beyond that of normal aging. Key diagnostic resources are an interview with a knowledgeable family member, friend, or caretaker and an office-based clinical assessment. The history probes for functional impairment linked to cognitive decline and for evidence of memory loss. Cognitive aging alone does not impair one’s ability to function adequately at work and home. Memory loss is a sentinel feature of Alzheimer disease. A family history of dementia beginning before age 60 increases suspicion for Alzheimer disease or another dementia. Memory can be assessed by recall of current events or a list of words after a short delay. If clinically important cognitive decline is suspected, testing by a neuropsychologist can validate clinical suspicions. However, formal assessment is usually unnecessary, and screening instruments such as the Montreal Cognitive Assessment can be administered in the clinician’s office (for test and instructions, see www.mocatest.org). Normal test performance, although not definitive on its own, can help reduce referrals of otherwise healthy women. If dementia is still suspected, diagnostic evaluation usually includes blood tests for hypothyroidism and B12 deficiency and structural brain imaging.

Once an underlying neurologic disorder is reasonably excluded, stress, depression, sleep disorders, and other contributors should be considered. Midlife stressors include hot flashes, career demands, financial challenges, adolescent children, the empty nest syndrome, marital discord, health problems, and aging parents. The absolute risk of depression during the menopause transition is low, but susceptibility to depression increases during the transition. Sleep disturbances related to VMS, stress, or depression can potentiate cognitive symptoms and affect work performance. Alcohol, substance abuse, and cognitive adverse events of medications—including sleeping pills or other sedatives, antidepressants, anxiolytics, antihistamines, and some analgesics—should be assessed. Obstructive sleep apnea is also linked to cognitive difficulties and, when suspected, is best evaluated at a specialized sleep center.

THE PATIENT’S ROLE

Brain health is promoted by factors that maintain the health of the cardiovascular system. Smokers should stop smoking. Hypertension, diabetes, and hyperlipidemias should be prevented or treated. Several individually modifiable factors may help ameliorate age-related cognitive decline. One is healthy nutrition. The Mediterranean diet, for example, is associated with better cognition. Another is regular physical activity, including walking, which is linked to slower rates of cognitive decline. Tai Chi exercise, a mind-body intervention that incorporates mild to moderate intensity aerobic activity, may also be of benefit. Other evidence supports regular engagement in mentally stimulating activities. Use of marketed brain games and computerized products to enhance cognition is not recommended, given the limited evidence of clinical benefit.

WHAT IS THE ROLE OF HORMONE THERAPY?

Although some observational studies show enhanced cognition among women who use hormone therapy during the menopause transition, in randomized clinical trials, hormone therapy does not substantially affect cognitive function after natural menopause. That said, women with premature menopause are not well studied, and there are no long-term trials of hormone therapy in women with moderate to severe VMS. In observational studies, hormone therapy used by younger women is associated with reduced Alzheimer risk, but hormone users are often healthier than nonusers; initiating hormone therapy after age 65 years increases risk by two additional cases of dementia per 1,000 person-years of use. Hormone therapy is not approved for the prevention or treatment of age-related cognitive decline or dementia.

Financial disclosure/conflicts of interest: Dr. Maki reports past consultancy fees from Abbott and Noven. Dr. Henderson reports no relevant financial relationships.

REFERENCES

This Practice Pearl, developed by the authors, provides practical information on current controversial topics of clinical interest. It is not an official position of The North American Menopause Society (NAMS). Clinicians must always take into consideration the individual patient along with any new data published since the publication of this statement on March 7, 2016. The Practice Pearl series is coordinated by the NAMS Practice Pearl Task Force, edited by Dr. Andrew Kaunitz, and approved by the NAMS Board of Trustees.

Made possible by donations to the NAMS Education & Research Fund.