Estrogen and Alzheimer's: Closer to the Truth

Women appear to be at greater risk of developing Alzheimer disease (AD) than men, and the postmenopausal depletion of estrogens may be one of the contributing factors to this trend. Although many studies have sought to establish whether hormone replacement therapy (HRT) may help reduce the risk of AD, results have been mixed. The Cache County Study, a longitudinal investigation of the incidence of AD relative to genetic and environmental risk factors, recruited 1,357 men (mean age 73 years) and 1,889 women (mean age 75 years). Subjects were screened with the Modified Mini-Mental State examination, followed by the Dementia Questionnaire. If cognitive disturbance was suggested, a clinical assessment was performed. For females, a history of current and former use of HRT was also taken.

Within the three year follow-up, 2.6% of men and 4.7% of women developed AD, and the incidence among women increased after age 80 and exceeded the risk among men of the same age. Women who used HRT were found to have a reduced risk of developing AD compared to women who did not use HRT. However, the risk varied with the duration of HRT use: women using hormone replacement for more than 10 years experienced a 2.5-fold lower incidence of AD—comparable to the risk seen among the male participants. Nearly all of the HRT-related reduction in incidence was due to former use of HRT, whereas current use had no effect unless duration of treatment exceeded 10 years.

Although these findings suggest that prior HRT use is associated with reduced risk of AD, the authors acknowledge several limitations in their study. For example, the participants from Cache County, Utah were well educated and homogenous in their sociodemographics, thus suggesting a lack of generalizability to other populations. The researchers suggest awaiting further results from ongoing large, randomized prevention trials before making any firm conclusions. ◆

Source

1. Zandi PP, Carlson MC, Plassman BL, et al. Hormone replacement therapy and incidence of Alzheimer disease in older women. JAMA 2002;288:2123-9.