Association between menopause, obesity and cognitive impairment

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Obesity has been associated with cognitive decline, characterized by a deterioration of mental abilities that involve memory, language, and thought-processing speed. But in a study of 300 post-menopausal women included in the Cardiovascular Prevention Program "Corazón Sano," in Argentina, obese participants in the study performed better on three cognitive tests than participants of normal weight, leading researchers to speculate about the role of sex hormones and cognition.

According to the study's lead author, Judith M. Zilberman, MD, of the School of Pharmacy and Biochemistry's Department of Physiology, and the Instituto Cardiovascular de Buenos Aires, Argentina, these results may be attributable to estrogen stored and released by fat cells. Dr. Zilberman will discuss her team's findings at the Physiology of Cardiovascular Disease: Gender Disparities conference, October 12 at the University of Mississippi in Jackson. The conference is sponsored by the American Physiological Society with additional support from the American Heart Association. Her presentation is entitled, "Association Between Menopause, Obesity, and Cognitive Impairment."

The researchers reviewed the records of 678 women who had participated in Villa María, Córdoba. Of this number, 300 (44.3 percent) were identified as having been post-menopausal for at least 1 year. Of these, 158 women (52.6 percent) were also classified as obese either because of their waist circumference or body mass index (BMI). The average of the women in the group was 59.8 years.

Each of the 300 post-menopausal women took three cognitive tests: The Mini-Mental Statement Examination, a common test for evaluating the global cognitive status, a clock-drawing test to determine the women's executive function (planning, problem-solving, verbal reasoning, etc.); and the Boston Abbreviated Test to assess the women's memory.

The researchers found that BMI was positively correlated with higher levels of cognition. They also found an equal correlation between obesity-related waist circumference and global cognition.

But where does estrogen fit in? "Where there is increased adipose tissue , there is increased estrogen," said Dr. Zilberman. "My hypothesis is that estrogen may be protective of cognitive function in this case."

According to Dr. Zilberman, the possibility that naturally occurring estrogen from a woman's own fat cells may help preserve cognition flies in the face of current medical advice. "Based on previous studies, many research institutions have decided against recommending estrogens as a preventive intervention in cognitive impairment or dementia," she said. "That's what makes our findings so important."

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