DEMENTIA

Does Leptin Protect Against Dementia?

Overweight and obesity (central adiposity) during middle age and later have been linked to a woman's chances of developing dementia. Some research has shown that high levels of leptin—a hormone of adipose tissue—may lower the risk of dementia. But in the Prospective Population Study of Women, a longitudinal cohort study in Gothenburg, Sweden, leptin did not seem to be related to dementia.

Researchers from the University of Gothenburg in Gothenburg, Sweden, and the State University of New York in Brooklyn, New York, used data from a subgroup of 1,462 women who were followed for 32 years and examined in 1968, 1974, 1980, 1992, and 2000, using neuropsychiatric, anthropometric, clinical, and other measurements. Serum leptin was measured on samples collected in 1968 (after being stored at –20°C for 29 years).

The researchers' earlier work had indicated that high midlife waist-to-hip ratio doubled the risk of dementia. However, despite positive baseline correlations between leptin and adiposity measures, the researchers found leptin was not a midlife marker of late-life dementia risk. It seems, they say, that the relationship between leptin and dementia from midlife to late life differs from that of overweight, obesity, and dementia. One reason, they suggest, is that leptin is an acute marker of body composition rather than a long-term prognostic indicator. They point to the cross-sectional imaging data in younger adults showing inverse correlations between leptin levels and gray matter volumes and the protective effect of leptin observed in the Framingham Study.

Leptin affects brain development in many ways, the researchers note, and may have effects on brain health in cognition and aging; for example, by affecting hypothalamic function as well as learning and memory processes controlled by the hippocampus. Perhaps in the years closest to the onset of development, the researchers speculate, the relationship between dementia and leptin is more apparent.

Source: Gustafson DR, Bäckman K, Lissner L, et al. *Alzheimers Dement.* 2012;8(4):272-277. doi: 10.1016/j.jalz.2011.05.2411.