

Study examines effects of growth hormone-releasing hormone on cognitive function

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Treatment with growth hormone-releasing hormone appears to be associated with favorable cognitive effects among both adults with mild cognitive impairment and healthy older adults, according to a randomized clinical trial published Online First by *Archives of Neurology*.

"Growth hormone-releasing hormone (GHRH), growth hormone and insulinlike growth factor 1 have potent effects on [brain function](#), their levels decrease with advancing age, and they likely play a role in the pathogenesis of Alzheimer disease," the authors write as background information in the study.

To examine the effects of GHRH on cognitive function in healthy [older adults](#) and in adults with [mild cognitive impairment](#) (MCI), Laura D. Baker, Ph.D., of the University of Washington School of Medicine and Veterans Affairs Puget Sound Health Care System, Seattle, and colleagues, conducted a randomized, double-blind, placebo-controlled trial in which participants self-administered daily injections of a form of human GHRH (tesamorelin), or placebo.

The authors enrolled 152 adults ranging in age from 55 to 87 years (average age, 68 years) and 137 participants (76 healthy patients and 61 patients with MCI) successfully completed the study. At baseline, at 10 and 20 weeks of treatment, and after a 10-week washout (30 weeks total), the authors collected blood samples and administered parallel versions of [cognitive tests](#).

Among the original 152 patients enrolled in the study, analysis indicated a favorable effect of GHRH on cognition, which was comparable in adults with MCI and healthy older adults. Analysis among the 137 patients who successfully completed the trial also showed that treatment with GHRH had a favorable effect on cognition among both groups of patients. Although the healthy adults outperformed those with MCI overall, the [cognitive benefits](#) relative to placebo was comparable among both groups.

Treatment with GHRH also increased insulinlike growth factor 1 levels by 117 percent, which remained within the physiological range, and increased fasting insulin levels within the normal range by 35 percent in adults with MCI but not in healthy adults.

"Our results replicate and expand our earlier positive findings, demonstrating that GHRH administration has favorable effects on cognitive function not only in healthy older adults but also in adults at increased risk of cognitive decline and dementia," the authors conclude. "Larger and longer-duration treatment trials are needed to firmly establish the therapeutic potential of GHRH administration to promote brain health in normal aging and 'pathological aging.'"

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