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Tesamorelin can improve cognitive function

Administering tesamorelin, a long-acting analogue of somatoliberin (growth-hormone-releasing hormone) to patients with mild cognitive impairment or healthy older adults has positive effects on cognition, according to a new study published in *Archives of Neurology*. “This



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study was designed to assess whether somatoliberin has positive effects on executive function and short-term memory, not only for healthy older adults but also for people with mild cognitive impairment who are at increased risk of progressing to Alzheimer disease,” explains Laura Baker, lead investigator from the University of Washington, USA.

The researchers recruited 152 adults aged 55–87 years (mean 68 years), of whom 137 completed the study. 76 of the participants were healthy and 61 had mild cognitive impairment. Every day for 20 weeks, each person self-administered 1 mg of tesamorelin 30 min before bedtime, which had long-lasting effects on insulin-like growth factor I (IGF-I) levels. “Tesamorelin increased IGF-I levels to that of a young adult and these levels remained high throughout the day,” notes Baker. Participants’ cognitive functioning, mood, sleep, insulin sensitivity, glucose tolerance, body composition and serum IGF-I levels were measured between 0800 h and 1000 h at baseline and again at 10, 20 and 30 weeks after the injections were started. Cognitive tests were designed to assess executive function and short-term memory, and included a Stroop test of selective attention, a

verbal fluency test that demonstrates planning and organization, a self-ordered pointing test to assess working memory and the Hopkins verbal learning test to determine verbal short-term memory. A delayed match-to-sample task and visuospatial learning tests assessed visual short-term memory.

Tesamorelin improved executive function and, to a lesser degree, short-term verbal memory. Cognitive function improved in healthy adults and the expected functional decline of those with mild cognitive impairment was attenuated. “This study indicates the types of abilities that benefit from treatment with growth-hormone-releasing factors—abilities that are compromised by normal aging and in the earliest stages of Alzheimer disease,” observes Baker.

Baker and colleagues plan a 1 year trial of somatoliberin to test whether prolonged treatment has stronger effects and to identify possible mechanisms.

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Original article Baker, L. D. *et al.* Effects of growth hormone-releasing hormone on cognitive function in adults with mild cognitive impairment on healthy older adults. *Arch. Neurol.* doi:10.1001/archneurol.2012.1970