

High-Fat Diet Can Postpone Brain Aging: A Short Review

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Abstract: *The influence of dietary fat upon the mental state of human being was a field of negligible attention in past. New study headed by the National Institutes of Health, the Center for Healthy Aging, and the University of Copenhagen found brain aging was postponed in mice placed on a high-fat diet. The findings open the door to potential new treatments for those suffering from premature aging, Alzheimer's, and Parkinson's disease. More researches are needed to establish the claim now.*

Keywords: Ageing, High fat diet, Alzheimer's disease, Premature Aging, Parkinson's disease

1. Introduction

Aging is a summery term for a set of processes, which contribute to health deterioration and ultimately to death with the passage of time (calendar age). In other words, any process contributing to age-related decline in performance, productivity and health is a component of the aging process that deserves our attention and intervention ^[1].

2. Aging and its Consequences

Healthy aging implies optimal well-being in spite of barriers resulting from age ^[2]. A number of physical, biological, chemical and psychological changes appear with aging. Brain is no exception to this phenomenon ^[3]. Mild cognitive impairment, Alzheimer's disease, Parkinson's disease, etc are most common neurodegenerative diseases related to age. Alzheimer's disease is currently the fastest-growing age-related disease ^[4].

Human cells have a system for repairing damage to DNA. This repairing function breaks down with aging. This damage to DNA has been linked with Alzheimer's and Cockayne syndrome - a premature aging disorder that results in death by the age of 10-12 ^[5].

3. High Fat Diet Postpones Aging

The influence of dietary fat upon the mental state of human being was a field of negligible attention in past, though dietary approach may go a long way to keep the brain healthy. In fact, a healthy brain can be maintained even in old age with a healthy fat regimen. For years, nutritionists and doctors have preached that a low-fat diet is the key to losing weight, managing cholesterol, and preventing health problems ^[6]. But now new federally funded research suggests that, eating a high-fat diet may delay age-related declines in brain function.

The study headed by the National Institutes of Health, the Center for Healthy Aging, and the University of Copenhagen found brain aging was postponed in mice placed on a high-fat

diet ^[7]. This new research project has studied mice having a defect in their DNA repair system. In humans, this defect causes the disorder Cockayne syndrome. The researchers see a particular positive effect when the mice are given the so-called medium chain fatty acids – e.g. from coconut oil ^[4].

Brain is in constant need for fuel. Sugar and ketones serve the purpose. Ketones are brain's fuel reserve which plays an important role in time of low blood sugar level. In a crisis of sugar, body breaks down fat and during this process, ketones are produced. A diet with a high content of coconut oil or similar fats will have a beneficial effect, because the brain cells are given extra fuel and thus the strength to repair the DNA damage.

The study was published in the scientific journal *Cell Metabolism* ^[8, 9]. The findings open the door to potential new treatments for those suffering from premature aging, Alzheimer's, and Parkinson's disease ^[7].

4. Conclusion

While research into these types of approaches continues, it is important to remember there is already plenty of research supporting the value of a healthy, balanced diet with generous amounts of healthy fats to help delay or prevent age-related health problems ^[10]. More research is needed before the claim that a high-fat diet could slow the aging of the brain, but the scientists admitted that their study yielded some breakthrough results that will surely help with further research ^[11].

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