

Fast Food Diet Led to a Strong Inflammatory Response in the Aging Brain

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INTRODUCTION

In older rats, researchers discovered that supplementing the processed food with the omega-3 fatty acid DHA prevented memory deficits and almost completely decreased inflammatory effects. In young adult rats fed the processed diet, there was no evidence of inflammation or cognitive impairments.

The trial diet included ready-to-eat human meals with long shelf life, such as potato chips and other snacks, frozen entrees including pasta dishes and pizzas, and preservative-laden deli meats.

Highly processed diets have also been linked to obesity and type 2 diabetes, suggesting that older consumers should cut back on convenience meals and increase their intake of DHA-rich foods like salmon [1,2].

A processed diet can cause large and sudden memory losses, and rapid memory decline has a higher risk of advancing to neurodegenerative disorders like Alzheimer's disease in the elderly population [3]. By being aware of this, we may be able to reduce our intake of processed meals and increase our intake of foods high in the omega-3 fatty acid DHA to either prevent or halt the progression. DHA, or docosahexaenoic acid, is an omega-3 fatty acid found in fish and other seafood with eicosapentaenoic acid (EPA). A role in fending off an inflammatory response is one of DHA's many roles in the brain.

In the hippocampus and amygdala of older rats that ate the processed diet alone, activation of genes linked to a potent pro-

inflammatory protein and other markers of inflammation was much higher compared to young rats on any diet and elderly rats who ate the DHA-supplemented processed meal [4].

In behavioral trials, the older rats on the processed diet showed indicators of memory loss that were not seen in the younger rats. They forgot about spending time in a new place after a few days, indicating difficulties with contextual memory in the hippocampus, and they did not show anticipatory fear behavior in response to a danger cue, implying amygdala abnormalities [5].

These are the kinds of diets that claim to be low in fat but are actually quite processed. They are devoid of fiber and contain refined carbs, commonly referred to as low-quality carbohydrates.

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