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Can coconut oil replace caprylidene for Alzheimer disease?

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Can coconut oil replace caprylidene for Alzheimer disease?

Alzheimer disease (AD) is the most common cause of dementia, and recent headlines are touting coconut oil as a potential remedy for this irreversible and progressive condition. The rationale for using coconut oil is related to altered glucose metabolism that has been observed on positron emission tomography (PET) scans in patients with AD (Figure 1). Recognition of this cerebral glucose hypometabolism has led to investigational therapies aimed at improving cellular metabolism with the use of ketones as an alternate fuel source.

Coconut oil is composed predominantly of medium chain triglycerides (MCTs). The theory is that metabolism of coconut oil will produce ketone bodies that may be used by neurons for fuel, thus improving cognitive function. However, no evidence exists that coconut oil is effective for improving functionality in AD patients. Additionally, there is not much evidence that ingesting coconut oil will result in ketogenesis, a process that usually occurs in the absence of utilizable glucose.

The popularity of coconut oil stems from a small trial of medium chain triglycerides in patients with AD.¹ In this randomized, double-blind, placebo-controlled trial of 152 patients, MCTs (comprised of caprylic acid from coconut or palm kernel oil) were found to significantly improve cognitive scores after 45 and 90 days of treatment. This

TABLE 1. MCTs in Axona and coconut oil

Axona	Coconut oil
Caprylidene (20 g)	Caprylic acid (7%) Capric acid (8%) Lauric acid (50%)

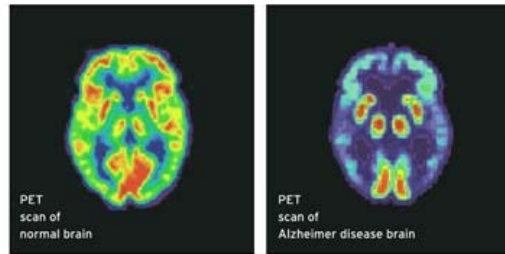


FIGURE 1. Glucose hypometabolism in Alzheimer disease

led to the marketing of caprylidene (Axona) in the United States.

Axona is a prescription-only "medical food" that contains a proprietary formulation of medium chain triglycerides. After ingestion, the liver metabolizes these MCTs to beta-hydroxybutyrate (a ketone body), which can then be utilized for fuel. PAs may recognize beta-hydroxybutyrate as the predominant ketone in diabetic ketoacidosis (DKA). However, the level of ketosis obtained with Axona is mild and comparable to levels seen in the early phases of very low-carbohydrate diets.¹ The levels of ketosis obtained with starvation or DKA are much greater.

Because Axona is expensive and available only by prescription, some patients have turned to coconut oil as a cheaper and easier to obtain alternative. However, coconut oil contains a different composition of MCTs than Axona (Table 1). Therefore, it is difficult to extrapolate the data from caprylidene to coconut oil. Additionally, the quantity of coconut oil that should be used is unknown. Some

advocates recommend starting with approximately 1 tablespoon daily and gradually increasing to 4 to 6 tablespoons daily. Coconut oil can be mixed with food such as oatmeal and should be spread out over 2 to 4 meals. Both Axona and coconut oil can cause GI upset, including cramping and diarrhea.

The effect of coconut oil on overall health (including Alzheimer disease) and serum cholesterol is highly debated. The Alzheimer's Association states, "A few people have reported that coconut oil helped ... but there's never been any clinical testing of coconut oil for Alzheimer's, and there's no scientific evidence that it helps."² However, many patients still opt to try coconut oil. Advise patients to use nonhydrogenated coconut oil, and monitor serum cholesterol regularly. JAAPA

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