

Diet may eliminate spasms for infants with epilepsy

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Infantile spasms are a severe and potentially devastating epilepsy condition affecting children aged typically 4-8 months. In a new study appearing in *Epilepsia*, researchers have found that the ketogenic diet, a high fat, low carbohydrate diet more traditionally used for intractable childhood epilepsy, is an effective treatment for this condition before using drugs. The study is the first description of the ketogenic diet as a first-line therapy for infantile spasms.

ACTH and vigabatrin, medications that are the commonly-used first treatments worldwide, can have potentially-serious side effects such as hypertension, gastric ulceration, cortical atrophy, and visual field constriction. ACTH, though it is effective in 60-70 percent of cases, also costs more than \$80,000 for a one-month supply and vigabatrin is not currently available in the U.S. Both drugs have about a 30-40 percent recurrence rate of spasms as well. Other therapies are not yet proven.

"We decided to review our experience at Johns Hopkins using the ketogenic diet to treat infantile spasms before medications were tried and compare this to our use of ACTH over the same time period," says Eric Kossoff, M.D, a pediatric neurologist at Johns Hopkins Hospital and lead author of the study. "We knew that the ketogenic diet worked well for difficult-to-control infantile spasms, so we thought it would also be effective earlier."

If the diet stopped the spasms, infants were kept on it for usually 6 months. The diet worked in 8-of-13 infants within approximately one

week. Only 1-of-8 had recurring spasms, and that infant was controlled again with the addition of topiramate to the diet. Side effects were fewer than ACTH in this series and the recurrence rate was also lower with the diet. In the 5 patients in which the diet did not work, ACTH was started immediately; it worked quickly in 4 of the 5 infants. ACTH did lead to a normal EEG quicker, but long-term developmental outcomes were identical.

Source: Wiley

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