Aspartame exacerbates EEG spike-wave discharge in children with generalized absence epilepsy
A double-blind controlled study

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Abstract

There are anecdotal reports of increased seizures in humans after ingestion of aspartame. We studied 10 children with newly diagnosed but untreated generalized absence seizures. Ambulatory cassette recording of EEG allowed quantification of numbers and length of spike-wave discharges in a double-blind study on two consecutive days. On one day the children received 40 mg/kg aspartame and on the other day, a sucrose-sweetened drink. Baseline EEG was the same before aspartame and sucrose. Following aspartame compared with sucrose, the number of spike-wave discharges per hour and mean length of spike-wave discharges increased but not to a statistically significant degree. However, the total duration of spike-wave discharge per hour was significantly increased after aspartame (p = 0.028), with a 40% ± 17% (SEM) increase in the number of seconds per hour of EEG recording that the children spent in spike-wave discharge. Aspartame appears to exacerbate the amount of EEG spike wave in children with absence seizures. Further studies are needed to establish if this effect occurs at lower doses and in other seizure types.

Footnotes

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