

Aspartame and Seizure Susceptibility: Results of a Clinical Study in Reportedly Sensitive Individuals

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Summary: The high intensity sweetener aspartame has been implicated anecdotally in seizure provocation. This possibility was investigated with a randomized, double blind, placebo-controlled, cross-over study. After an extensive search, 18 individuals (16 adults and 2 children) who had seizures allegedly related to aspartame consumption were admitted to adult or pediatric epilepsy monitoring units where their EEG was monitored continuously for 5 days. Aspartame (50 mg/kg) or identically enpackaged placebo was administered in divided doses at 0800, 1000, and 1200 h on study days 2 and 4. All meals were uniformly standardized on treatment days. No clinical seizures or other adverse experiences were observed after aspartame ingestion. Mean plasma phenylalanine (Phe) concentrations increased significantly after aspartame ingestion (83.6 μM) as compared with placebo (52.3 μM). Results suggest that aspartame, in acute dosage of ~50 mg/kg, is no more likely than placebo to cause seizures in individuals who reported that their seizures were provoked by aspartame consumption.

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