

Glucose Tolerance Testing and Hypoglycemia in Seizure Disorders

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Hypoglycemia is a recognized cause of seizures, although this is mainly attributed to insulin reactions, alcoholism, sepsis or other specific circumstances. Little consideration is given to the role of hypoglycemia as a contributor to seizure onset based on daily dietary patterns, nutritional status, stress and/or other factors. We also know of no reported glucose tolerance test (GTT) data in seizure disorders. Therefore, we report the findings of 5-hour GTT results in 20 subjects who consecutively reported to an outpatient medical office for treatment of seizures between December 1992 and July 1996. The sample included 13 males and 7 females whose ages at presentation ranged from 9 to 66 years (average = 34.7). Defining hypoglycemia as a blood sugar reading <60 mg/dL, 9/20 (45%) had results consistent with hypoglycemia (average blood sugar nadir was 48.9 mg/dL). Two other subjects had abnormal GTT results suggestive of hypoglycemia. Their blood sugar levels dropped 99 mg/dL and 113 mg/dL in 60 minutes.

These data support the presence of hypoglycemia in seizure disorders and the need for further research examining its influence. Hypoglycemia should also be considered as a mechanism by which the low carbohydrate ketogenic diet is beneficial for seizure disorders.