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Case study: Nutritional treatment for status epilepticus with ketogenic diet

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Introduction: Status epilepticus is a condition which has seizures more than 30 minutes without recovery between them. Seizures in the meningoencephalitis patients are caused by enhancement of emphasis and expansive of inflammation area in the brain. The ketogenic diet was given to the epileptic patient to minimize the seizures through some pathways such as: inhibit neurotransmitter release and activation of ATP-sensitive potassium channels, enhance overall bioenergetics and reduce oxidative stress, and modulate tricarboxylic acid flux.

Objective: The aim of this case study is to know the effectiveness of ketogenic diet in order to decrease seizures in a patient with status epilepticus.

Method: This study was a case study which observed a patient (boy, 10 years old) at the Dr. Saiful Anwar Hospital, Indonesia, with status epilepticus and loss of consciousness. The ketogenic diet was given gradually, for 7 days (February 25th- March 3rd, 2015), a patient was given pan enteral diet 1200 cc/day (1200 kcal, protein 36.72 g, fat 61.8 g, and carbohydrate 130.8 g), for 9 days (4th-12th March 2015) received ketogenic diet 1600 cc (2169.9 kcal, protein 16.32 g, fat 107.2 g, and carbohydrate 280 g).

Result: Seizure decreased at the first day after ketogenic diet administration (seizures < 30 minutes) and stopped completely at second day after administration. Based on monitoring result, a patient had decreasing body weight and MUAC during ketogenic diet administration. Furthermore, patient had enhancement of lipid profile (total cholesterol 211 mg/dL, TG 256 mg/dL, HDL 32 mg/dL, dan LDL 146 mg/dL).

Conclusion: The ketogenic diet gradually can reduce and inhibit seizures in the meningoencephalitis patients.

Biography

Diana Mareta IFA Pitaloka has completed her graduation in Nutrition and Health from Brawijaya University and currently is a Master's student of Taipei Medical University (TMU), Taiwan. She got basic knowledge about clinical nutrition, food science, and community nutrition at her Bachelor's degree level. Out of which, she is interested in clinical nutrition and food science. In her Master's program, she concentrated on high fat diet, inflammation, and lipid metabolism. Recently, she learnt about glutamine and arginine against lipid metabolism in the liver.

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