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The efficacy and tolerability of high polyunsaturated fatty acid ketogenic diet in one pediatric patient with refractory myoclonic status epilepticus: A case study

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Statement of the Problem: The study describes one pediatric patient of 36 months of age with refractory myoclonic status epilepticus, treated with high polyunsaturated fatty acid contained ketogenic diet (KD).

Methodology & Theoretical Orientation: The ketogenic diet is a high-fat, low-carbohydrate, normal protein diet with an established efficacy for treating refractory epilepsy in pediatric population. Fatty acids are the most important constituent of the KD. Polyunsaturated fatty acids (PUFAs) increase anticonvulsant properties and reduce the complications associated with the high-fat diet. Between January 3, 2016 and June 6, 2016, one pediatric patient who met the diagnostic criteria for refractory myoclonic status epilepticus, seen at our neurology clinic, was placed on high polyunsaturated fatty acid ketogenic diet and followed for six months to observe the efficacy and tolerability of the diet in controlling refractory epilepsy. The intervention included nutritional counseling, administration of ketogenic diet, assessing and improving the quality of life of the family and monitoring the blood parameters during the treatment.

Findings: The patient with progressive encephalopathy associated with myoclonic epilepsy had a 100% seizure reduction within three months of the treatment. The patient showed good compliance and tolerability to the diet. The number of anti-epileptic drugs has reduced from five to two. The quality of life of the patient and the family is improved as the child started walking, communicating and responding to her parents. There were no reported incidents of nausea, vomiting, constipation or loose motions, which are typical complains related to ketogenic diet administration as per several trials.

Conclusion & Significance: The ketogenic diet is an effective and well-tolerated treatment option for patients with refractory myoclonic status epilepticus and should be considered as a potential course of treatment in managing refractory or uncontrolled epilepsy.

Biography

Subhasree Ray is pursuing her PhD in the department of Food Science and Nutrition, SNDT Women's University, Mumbai, India. Her research areas include Ketogenic Diet Therapy, Dietary Management of Neurodegenerative Diseases, Medical Nutrition Therapy, Public Health Nutrition, Food Chemistry, Probiotics, Food Toxicology and Nutrigenomic. She has published 15 research articles so far and also worked in management of severe acute malnutrition along with national government. She is also associated with social welfare activities with several NGOs in Mumbai.

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