

KETOGENIC DIET IN NEUROMUSCULAR AND NEURODEGENERATIVE DISEASES.

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An increasing number of data demonstrate the utility of ketogenic diets in a variety of metabolic diseases as obesity, metabolic syndrome, and diabetes. In regard to neurological disorders, ketogenic diet is recognized as an effective treatment for pharmaco-resistant epilepsy but emerging data suggests that ketogenic diet could be also useful in amyotrophic lateral sclerosis, Alzheimer, Parkinson's disease, and some mitochondriopathies. Although these diseases have different pathogenesis and features, there are some common mechanisms that could explain the effects of ketogenic diets. These mechanisms are to provide an efficient source of energy for the treatment of certain types of neurodegenerative diseases characterized by focal brain hypometabolism; to decrease the oxidative damage associated with various kinds of metabolic stress; to increase the mitochondrial biogenesis pathways; and to take advantage of the capacity of ketones to bypass the defect in complex I activity implicated in some neurological diseases. These mechanisms will be discussed in this review.