

Safety, feasibility, and effectiveness of ketogenic diet in paediatric patients with brain tumours: A systematic review

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Abstract

Evidence suggests positive effects of ketogenic diet (KD) on cancers by limiting glucose availability to cancer. This systematic review aimed to explore the safety, feasibility, and effectiveness of KD in children with brain tumours (BT), including diet side effects, patient tolerance and compliance, tumour response, quality of life, and nutritional status. Using publications from several databases between 1995-2022, involving children with BT following KD, we reviewed eight publications, involving 11 patients, with median age of 5.3 years. Nine patients followed classic KD with medium-chain triglyceride (MCT oil). Remaining patients used modified Atkin or low-carbohydrate diet. KD was well-tolerated with non-severe side effects. Six patients showed positive tumour response, five improved neurological skills, and four reported growth improvement. Six patients reported a median overall survival of 17.6 months. KD can be a safe, and feasible dietary intervention for children with BT. However, the effects on tumours remain unclear and require further study.

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