

Effects of Branched-Chain Amino Acid Supplementation on Sarcopenic Patients with Liver Cirrhosis

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Abstract : Background: Sarcopenia is a catabolic state in liver cirrhosis (LC), accelerated with a breakdown of skeletal muscle to release amino acids which adversely affects survival, health-related quality of life, and response to any underlying disease. The primary objective of the study was to investigate the long-term effect of branched-chain amino acids (BCAA) supplementations on parameters associated with improved prognosis in sarcopenic patients with LC, as well as to evaluate its impact on cirrhotic-related events. Methods: We carried out a 24 week, single-center, randomized, open-label, controlled, two cohort parallel-group intervention trial comparing the efficacy of BCAA against lactoalbumin (L-ALB) on 106 sarcopenic liver cirrhotics. The BCAA (intervention) group was treated with 7.2 g BCAA per whereas, the lactoalbumin group was also given 6.3 g of L-Albumin. The primary outcome was to assess the impact of BCAA on parameters of sarcopenia: muscle mass, muscle strength, and physical performance. The secondary outcomes were to study combined survival and maintenance of liver function changes in laboratory and clinical markers in the duration of six months. Results: Treatment with BCAA leads to significant improvement in sarcopenic parameters: muscle strength, muscle function, and muscle mass. The total cirrhotic-related complications and cumulative event-free survival occurred fewer in the BCAA group than in the L-ALB group. Prognostic markers also improved significantly in the study. Conclusion: The current clinical trial demonstrated that long-term BCAAs supplementation improved sarcopenia and prognostic markers in patients with advanced liver cirrhosis.

Keywords : sarcopenia, liver cirrhosis, BCAA, quality of life

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