

Summary - Effect of clinical nutrition and physiotherapy in acutely ill geriatric patients on self-sufficiency and physical condition – prospective longitudinal study

Background & aims: Acute internal disease of the elderly often leads to loss of muscle mass and self-sufficiency. Reversal of muscle tissue, especially in geriatric patients, is very difficult and thus can an acute illness leads to necessity a second person helping a form of subsequent social care at home or in institutions aftercare. The aim of our study was to determine whether an active approach based on early physiotherapy and nutritional supplementation leads to influence the development of sarcopenia and patient's self-sufficiency during the acute illness.

Methods: Two hundred patients, older than 78 years, admitted to geriatric department with acute illness were enrolled in a prospective, randomized, controlled study. Patients were randomized to the control group (standard treatment, n = 100) and the intervention group (n = 100). The intervention consisted of the administration of nutritional supplements (600 kcal, 20 g protein daily) added to the standard diet and simultaneous intensive rehabilitation therapy. Patients were followed-up for 2 years after discharge. The tolerance of nutritional supplements and its effect on the spontaneous food intake were evaluated during hospitalization and body composition, muscular strength and self-sufficiency were evaluated during hospitalization and subsequent periodic controls two years after discharge from the hospital.

Results: The administration of nutritional supplements led to an increased daily total energy and protein intake and reduce the negative balance of protein and energy, while daily intake of normal diet was not reduced. Combination of nutritional support and physiotherapy prevented loss of muscle mass and muscle strength during acute hospitalization in geriatric patients, during hospitalization was the loss of muscle mass in the CG of 2,8 kg, in the IG an increase of 1,1 kg and the loss of muscle strength in CG of 1,2 kg, in the IG an increase of 0,6 kg. Even a year after the acute illness was the state of stocks of muscle and muscle strength better in the IG. Self-sufficiency declined during the two year follow-up of patients in both groups, but patients in the IG occurred after discharge to less decrease of self-sufficiency than in the CG, as well as during the entire two year period.

Conclusion: The results of our prospective randomized study have shown that early administration of nutrition supplements together with early rehabilitation mitigate the loss of muscle mass and muscle strength in acutely admitted older patients and thus prolongs the period of self-sufficiency and independence of elderly, improves the quality of life and reduces the adverse social and economic effects, that come with low self-sufficiency in seniors.