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A SUPERVISED VERSUS HOME-BASED EXERCISE PROGRAM EFFECTS ON LIVER TRANSPLANTED FAMILIAL AMYLOIDOTIC POLYNEUROPATHY PATIENTS: WALKING, FATIGUE AND QUALITY OF LIFE

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Purpose: To evaluate the effects of a six months exercise training program on walking capacity, fatigue and health related quality of life (HRQL).

Relevance: Familial amyloidotic polyneuropathy disease (FAP) is an autosomic neurodegenerative disease, related with systemic deposition of amyloid fibre mainly on peripheral nervous system and mainly produced in the liver. FAP often results in severe functional limitations. Liver transplantation is used as the only therapy so far, that stop the progression of some aspects of this disease. Transplantation requires aggressive medication which impairs muscle metabolism and associated to surgery process and previous possible functional impairments, could lead to serious deconditioning. Reports of fatigue are common feature in transplanted patients. The effect of supervised or home-based exercise training programs in FAP patients after a liver transplant (FAPTX) is currently unknown.

Participants: Thirty nine FAPTX subjects between 2 and 12 months post liver transplant were randomly assigned into three groups: a control group (CG) of 14 patients (11 males and 3 females, 34±10years, BMI 22.1±3.1kg/m²) without any exercise intervention; a supervised exercise training group (EG) of 8 patients (5 males and 3 females, 34±7years, BMI 20.4±4.5kg/m²) and an home-based exercise training group (HB) of 15 patients who exercised at home with a twice-monthly feed-back (4 males and 11 females, 35±5years, BMI 22.3±4.3kg/m²).

Methods: EG and HB groups exercised during 6 months, 3 times a week, 1 hour of aerobic and resistance exercise at moderate intensity. Walking capacity (WCp) was assessed by 6 minutes walk test (6mwt). Fatigue levels and HRQL were assessed by Multidimensional Assessment of Fatigue questionnaire (MAF) and Medical Outcome Study-36 item (SF-36) questionnaire respectively.

Analysis: In order to analyse changes resulting of intervention program, a variable was created resulting from difference between post-intervention values and pre-intervention values. To analyse differences between groups, One-way Anova (or kruskall-Wallis in case of skewed data) was performed with correspondent's post-hoc tests. Statistical significance was set at p<0.05.

Results: WCp expressed by body weight × walking distance was better (p<0.05) for EG but not for HB or CG. Neither groups have reported significant changes in fatigue or HRQL as result of exercise training program.

Conclusions: Supervised exercise has proved to be significantly more effective than home-based exercise in improving WCp in liver transplanted FAP patients. Although not significant, HB group has presented higher values for difference in WCp than CG. This increase in WCp reflects a better functional exercise level for daily physical activities. So, it seems that clearly these patients benefit from an exercise training program. However, this exercise program has not changed fatigue levels and HRQL.

Implications: The knowledge of results of home-based versus supervised exercise programs is of major importance for physical therapist intervention. In fact, a supervised program seems to be more effective in positively change walking capacity. However, since our program was not suitable to change fatigue and HRQL in FAPTX patients, other kind of prescription should be studied to objectively change these results. This knowledge will be of major importance for effective interventions of physiotherapists in transplantation and physical condition field.

Key-words: 1. Liver Transplant 2. Walking Capacity 3. Fatigue

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