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REBEC

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Faculdade de Ciências Médicas da Universidade Estadual de Campinas - Campinas, SP, Brazil

Study of the profile and the effects of an exercises program in patients candidates for liver surgery and liver transplantation

Study of the profile and the effects of an intervention program in patients candidates for liver surgery and liver transplantation

10/08/2012

actual

37

Data analysis completed

<http://www.ensaiosclinicos.gov.br/rg/RBR-8fz3mj/>

Intervention

Randomized, prospective, controlled, open, parallel with both arms study.

N/A

Chronic liver disease

All patients who agreed to participate in the study responded to a record containing identification data, age, gender, diagnosis of liver disease, respiratory symptoms, history, habits, MELD and calculation of body mass index (BMI). We assessed MIP and MEP for manometer, muscular electrical activity of the rectus abdominis and diaphragm by surface electromyography and noted the RMS values when prompted a forced breath every three seconds. Pulmonary function was assessed by spirometry and quality of life by application of the SF-36 questionnaire. 37 patients were randomized to constitute the control and intervention groups, of which 23 participated in the control group and 14 in the intervention group. The evaluations were performed before the intervention, and after three months of it. The exercises were supervised from a distance, monthly by the same observer. The intervention consisted of an illustrative and explanatory text to be followed at home, with diaphragmatic breathing exercises; diaphragmatic isometric exercise, Threshold IMT® ; lifting upper limbs with bat and strengthening the abdominal. All exercises were performed in three sets, 15 reps. For training with Threshold IMT® a load 23-40 cmH2O was used adjusted for each patient according to their tolerance. During the three months, the individual trained with the same load established at baseline. The control group did not do the exercises and it was evaluated two times, on first month and three months of it.

public

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We included 37 patients who were on the waiting list for liver transplantation diagnosed with cirrhosis of any etiology; of both genders; over the age of 18; with or without the diagnosis of cardiorespiratory disorders associated with any value and MELD. These patients participated in the intervention group.

18Y

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Patients who were unable to understand verbal commands due to the important encephalopathy were excluded; who failed to carry out evaluations; diagnosed with severe acute liver failure and those who were called to transplantation or patients participating in the intervention group who died.

C06

C06.552.630

Device
Behavioural

E02.190.525.186

The proposed intervention was able to improve muscle strength of patients and consequently reduce the electrical activity of the diaphragm, as expected. Besides, there was an increased functional capacity for those who carried out the exercises. To compare proportions we used the chi-square test or Fisher's exact when needed. For comparison of numerical measurements between two groups we used the exact Mann-Whitney. For comparison of measures between groups and times we used ANOVA for repeated measures with transformation by posts. For comparison of changes in proportions, the McNemar test

level of significance for statistical tests was $p < 0.05$. The diaphragm RMS decreased in the intervention group ($p = 0.001$) and there was an increase of Functional Capacity score ($p = 0.006$, compared to the control group).

There was a significant increase ($p = 0.017$) of MIP in the control group and intervention group after three months; and in the domains of the SF-36 General Health ($p = 0.019$) and Mental Health ($p = 0.004$). It was expected that there were only increased in the intervention group, however there was an increase in both groups after three months.

Outcome expected and not found: it was expected that after three months patients in the control group who did not have ascites, presented ascites. We compared the presence of initial ascites with the presence of ascites after three months in the control group ($p = 0.083$) and intervention group ($p = 0.31$), no significant difference was found, as compared to the presence of ascites after three months between the groups ($p = 0.21$).

Expected outcomes and that were found in the study: in the intervention group, patients with ascites at the end of time had worse scores on the Social Aspects domain of the SF-36 ($p = 0.023$) compared to those who had no ascites. In comparing the variables at the beginning and end of the study among former smokers or not, in the control group former smokers showed initial MEP ($p = 0.047$) and final ($p = 0.009$) higher than the smokers

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