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Muscle strength and mortality while on a liver transplant waiting list

Força muscular e mortalidade na lista de espera de transplante de fígado

We would like to congratulate the authors, Carvalho EM, Isern MRM, Lima PA, Machado CS, Biagini AP, and Massarollo PCB, on their article entitled "Muscle strength and mortality while on a liver transplant waiting list" recently published in this journal[1]. This issue is very relevant to the professionals who work directly with patients with metabolic disorders because an adequate evaluation may aid in the recovery in both the pre- and post-operative stages. A better understanding of the evolution of muscle strength and functional performance in these patients is fundamental to preparing a specific rehabilitation program.

Studies report that this group of patients often has respiratory and peripheral muscle changes. Augusto et al.[2] evaluated the respiratory muscle strength of 29 patients who were waiting for a liver transplant and who were evaluated and classified according to the Child-Pugh Score. It was clear that the patients classified as class C had a significant reduction in the maximal respiratory pressure of the inspiratory and expiratory muscles when compared to the class A and B patients.

Our research group recently published an article comparing the pulmonary function, the functional condition, and the quality of life of liver transplant candidates before and 1, 3, 6, 9, and 12 months after the surgery. The results showed a change in inspiratory muscle strength in the distance covered in the 6-minute walking test (functional evaluation) and in the physical function domain of the Short-Form 36 quality of life questionnaire when the pre-transplant period was compared with the following post-operative months. This shows that liver transplant is an alternative in the treatment of advanced stage hepatopathies because all of the variables had a significant improvement after the transplant, although patient response was not linear[3].

According to van den Berg-Emons et al.[4], muscle fatigue may continue for up to one year after the surgery. Likewise, Aadahl et al.[5] report that individuals who underwent liver transplant not only reduced physical activity levels but also suffered from increased mental fatigue (evaluated by means of a multidimensional questionnaire) which directly interfered with the individual's motivation. These studies showed that, even after replacing the organ, the patients can still have functional limitations and symptoms such as asthenia physical fatigue[5,6] among others. Hence the need for a rehabilitation program specifically designed for patients on a waiting list and especially for those who have undergone the transplant in order to accelerate the functional recovery of this population.

Krasnoff et al.[7] carried out a randomized clinical trial with patients who underwent liver transplant by dividing them into two groups. One received fitness training and nutrition advice, while the other only had routine follow-up with no physical activity. The results showed that the resistance to exercise and the body composition of these individuals can be changed if behavioral changes in eating habits and in the physical exercise routine are adopted at an early stage.

The present study, published by Carvalho et al.[1], aimed at evaluating the strength of the respiratory and hand muscles in patients on the liver transplant waiting list and investigate their relationship with mortality. To do that, the respiratory muscle strength of patients on the waiting list was tested by measuring the maximum inspiratory pressure (MIP), and MIP was subsequently classified as a predictor of mortality. We understand that to reach such a conclusion a more detailed statistical treatment must be carried out, including a survival test as well as uni- and multivariate analyses. Nevertheless, the statement by this study that patients who are waiting for a transplant may die before undergoing the procedure still holds true.

The comments on the study do not invalidate the results presented by the authors. Scientific research on individuals with metabolic disorders and submitted to liver transplants are fundamental to the health area because these studies would give physical therapists a better understanding of the clinical changes undergone by these patients and apply it to daily practice.

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