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Role of physical and rehabilitation medicine specialist in peri-operative problems

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Musculoskeletal surgery (MKS) represents a frequent medical situation among patients suffering from musculoskeletal disorders (MKD), in which PRM specialist has to be, very often, involved. A wide number of MKD have to be operated in order to diminish disability and relief symptoms, thus permitting patient´s functioning and social participation: Joint replacements, spine decompressions, vertebral-plasties, osteosynthesis due to bone fractures, arthroscopies in different joints, tendon tear sutures or plasties, etc. During the pre-operative and post-operative settings, after MKS, the role of the PRM specialist has to be clear. This position-paper describes the different settings where a PRM-specialist has to work among operated subjects, suffering from different disturbances, during all phases of the recovery process, as well as during the preoperative phase if needed. Although the presence of PRM specialist is important in all settings, it is during the post-operative one, where PRM expertise is particularly important. An interdisciplinary team of different professionals, is also necessary, in order to obtain the best results, and PRM specialist is the best one to lead it.

Surgical resection appears to be the foremost effective treatment for early-stage non-small cell carcinoma. Recent studies suggest that perioperative pulmonary rehabilitation improves functional capacity, reduces mortality and postoperative complications and enhances recovery and quality of life in operated patients. Our aim is to analyse and identify the foremost recent evidence-based workout interventions, performed before or after surgery. We searched in MEDLINE, EMBASE, CINAHL, Cochrane Library and PsycINFO. We included randomised controlled trials aimed toward assessing efficacy of exercise-training programmes; physiotherapy interventions had to be described intimately so as to be reproducible. Characteristics of studies and programmes, results and outcome data were extracted. Six studies were included, one describing preoperative rehabilitation and three assessing postoperative intervention. It seems that the simplest preoperative physiotherapy training should include aerobic and strength training with a duration of 2–4 weeks.

Introduction-

Lung cancer is the leading cause of cancer death in males, and in females, its mortality burden is as high as cervical cancer. In 2012, an estimated 1.8 million people were diagnosed with lung cancer, resulting in 1.6 million deaths. Lung cancer is the leading malignant cause of death in 93 countries, accounting for one-fifth of the total global burden of disability-adjusted life years from cancer.2 Non-small cell lung cancer (NSCLC)comprises 85% of all lung cancers. Up to 63% of patients diagnosed with lung cancer also present chronic obstructive pulmonary disease (COPD). If we consider all stages of NSCLC, the prognosis is poor, with an overall 5-year survival rate of 15%.Lobectomy for initial stages demonstrates higher survival rates, but only 15%–25% of patients are surgical candidates because of cardiopulmonary impairment due to coexisting COPD. Therefore, patients undergo medical treatment or marginal lung resection, with minor functional impact but possible ineffective control of disease. Furthermore, coexisting COPD is related to increased postoperative morbidity and mortality.

Pulmonary Rehabilitation (PR) may be a comprehensive intervention supported a radical patient assessment followed by patient-tailored therapies, that include, but aren't limited to, exercise training, education and behavior change designed to enhance physical and psychological condition of individuals with chronic respiratory illness and to market the long-term adherence to health-enhancing behaviours'. PR goals include minimising symptom burden, maximising exercise performance, promoting autonomy, increasing participation in everyday activities, enriching HRQoL and influencing long-term health-enhancing behaviour change it's widely recognised that workout is that the cornerstone in PR programmes.

Preoperative rehabilitation programme

Regarding the preoperative PR, Stefanelli et al.37 included incremental high-intensity aerobic training, both for lower and upper limbs and respiratory exercises. The PR programme lasted 3 weeks, consisting of 5 supervised individual sessions per week, conducted in an outpatient setting. The CG received usual care but further details weren't reported.

Postoperative rehabilitation programmes

Postoperative programmes included aerobic and strength or balance training. Regarding the respiratory component, Edvardsen et al.38 included inspiratory muscle training (IMT), Arbane et al.39 incorporated routine physiotherapy treatments and Brocki et al.8 incorporated dyspnoea management techniques.

Preoperative study

Stefanelli et al.37 trial reported that differences between groups were null at baseline. Instead, at T1 (after preoperative rehabilitation and pre-surgery) and at T2 (60 days post-surgery), it showed a significant difference in VO2peak between groups in favour of the IG ($p < 0.001$ and $p < 0.01$, respectively). Furthermore, in the IG, they observed a within-group significant improvement in VO2peak from baseline to T1. This improvement wasn't maintained after surgery, when patients within the IG fell back to their baseline values. On the contrary, within the CG, VO2peak registered endless decrease at both time points. Significant worsening after surgery brought this group to A level less than baseline. Regarding lung function, this trial did not report any between-group differences. Yet, it

reported a big within-group decrease of DLCO and FEV1, from baseline to T1 and from T1 to T2 for both IG and CG.

Discussion-

This systematic review aimed at determining the best evidence-based physical exercise interventions directed at patients treated surgically for NSCLC, both pre- and post-surgery.

Regarding preoperative and postoperative PR, our review demonstrates that in this field literature is lacking a sufficient number of randomised clinical trials. Therefore, beyond the previous conclusions of Crandall et al., highlighting the need for further high-quality RCTs and suggesting that an optimal rehabilitation programme should include aerobic, strength and breathing exercises,we cannot add any relevant evidence. However, our results allow us to support previous findings of Cavalheri et al., suggesting inclusion of exercise training in PR programmes after lung resection for NSCLC.

References-

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