Physiotherapy and physical activity in patients undergoing cardiac or lung cancer surgery

av

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Akademisk avhandling

Avhandling för medicine doktorsexamen i Medicinsk vetenskap med inriktning mot kirurgi, som kommer att försvaras offentligt fredagen den 3 maj 2019 kl. 13.00, Hörsal C2, Campus USÖ, Örebro universitet

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Abstract


Cardiovascular diseases are the leading cause of death worldwide. Cardiac surgery is performed to improve prognosis, relieve symptoms and increase functional capacity in patients with cardiac disease. Postoperative pulmonary complications are common after cardiac surgery and a reduced lung function can persist a long time after surgery. A positive association between level of physical activity and lung function has been proposed in both healthy individuals and people with different disabilities. It is not clear if there is an association between level of physical activity and recovery of lung function after cardiac surgery.

Lung cancer is one of the most frequently diagnosed forms of cancer worldwide, and a leading cause of cancer deaths. Surgical resection is the primary approach for curative treatment. Despite the fact that physical activity has many positive effects on health, patients undergoing lung cancer surgery often report a low level of physical activity. Measuring physical activity is not easy, self-reported physical activity remains the most clinically applicable type of measurement, and a simple and valid questionnaire for screening patients would be valuable.

Patients undergoing lung cancer surgery are often routinely treated by physiotherapists, but this kind of treatment has not been thoroughly investigated.

The purpose of this thesis was to investigate the effect of physiotherapy and physical activity in patients undergoing cardiac or lung cancer surgery.

This thesis include one cohort study of physical activity and recovery of lung function in patients undergoing cardiac surgery, one validation study of two self-reported physical activity instruments in patients undergoing lung cancer surgery, and two randomized controlled trials investigating the effect of physiotherapy for patients undergoing lung cancer surgery.

In study I, patients who remained active or increased their level of physical activity had better recovery of lung function, compared to patients who remained sedentary or reported a lower level of physical activity postoperatively.

In study II, two self-reported physical activity instruments were validated against accelerometer data in patients three and twelve months after lung cancer surgery. Both instruments were found able to identify patients not meeting recommendations on physical activity.

In study III, patients treated by physiotherapists were significantly more active during the first three days after lung cancer surgery, compared to an untreated control group.

In study IV, no between-group differences three months after surgery were found between patients receiving in-hospital physiotherapy compared to an untreated control group. However, the patients in the treatment group reported an increase of physical activity three months after surgery compared to preoperatively, while the patients in the control group did not.

Keywords: Physiotherapy, Physical Activity, Cardiac surgery, Lung Cancer, Randomized Controlled Trial, Thoracic surgery, Physical Function, Lung Function.

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