Commentary

Surgery is a stressor that causes large physiological changes ranging from tissue trauma, immobility, and systemic effects, to psychological distress. After upper abdominal surgery, patients present with respiratory changes, including atelectasis, diaphragm dysfunction and reduced lung volumes. This leads to postoperative hypoventilation, which is associated with a high risk of pulmonary complications. Preoperative physiotherapy interventions, including exercise training and breathing therapy strategies, aim to increase alveolar stability and mobilise secretions. These interventions usually take around 20 minutes to complete. Several protocols having been tested but none have been found to reduce postoperative pulmonary complications.

I commend the authors for this well designed and reported trial that satisfied all possible criteria of the PEDro scale, and recruited a large number of patients. The intervention included patient education about postoperative pulmonary complications and training patients how to perform breathing exercises. The intervention was provided either face to face or by telephone. The simple intervention halved the incidence of postoperative pulmonary complications, including pneumonia, within 14 postoperative hospital days and the effect was maintained at 12 months. It seems amazing how such a simple intervention was more effective than other interventions previously described and delivered directly to patients while in hospital. The effect could be explained by the fact that most patients were well educated and seen within 6 weeks before surgery. Another consideration is that most patients (around 70%) had cancer and it is possible that these patients were motivated to take greater care of their health postoperatively. In many developing countries, it might be difficult to implement this type of intervention because of a lack of routine preadmission clinics. However, this trial will encourage clinicians to re-consider their preoperative care.


Celso RF Carvalho
Department of Physical Therapy, School of Medicine, University of São Paulo, São Paulo, Brazil

References


https://doi.org/10.1016/j.jphys.2018.04.004

Commentary

The trial results point towards an effective intervention in which a single 30-minute preoperative coaching session from a physiotherapist on breathing exercises can halve the incidence of postoperative pulmonary complications after upper abdominal surgery. However, there were several imbalances in the randomised groups that might explain some of the effect. The intervention group was younger, had lower American Society of Anaesthesiology scores; had fewer respiratory, diabetes and cardiac co-morbidities; had fewer current smokers and had a lower pack-year history. Additionally, the intervention group reportedly had higher preoperative handgrip strength and estimated VO₂max. Further, less upper gastrointestinal/hepatobiliary surgeries were performed in the intervention group. Are any of these large enough toARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS
ARTICLE IN PRESS

References


https://doi.org/10.1016/j.jphys.2018.04.007

Commentary

Strong claims require strong evidence. The Lung Infection Prevention Post Surgery Major Abdominal with Pre-Operative Physiotherapy (LIPPSMAck-POP) is the latest and most robust trial postoperative pulmonary complications along with coaching on breathing exercises would have the profound impact of halving complications in the upper abdominal surgery cohort. Implementation challenges could occur if decision-makers were not fully convinced by or committed to the results. Anecdotally, physiotherapy preoperative assessment and education of those undergoing ‘at-risk’ surgery, such as cardiac, lung lobectomy and upper abdominal surgery, was prevalent in the later part of the 20th century but funding for preoperative education, in the absence of evidence, has long been directed elsewhere. This trial is generating much conversation, but needs replicating across jurisdictions before the water cooler chatter can settle and practice change ensues.


Shane Patman
School of Physiotherapy, The University of Notre Dame Australia, Perth, Australia

https://doi.org/10.1016/j.jphys.2018.04.007

Commentary

The trial results point towards an effective intervention in which a single 30-minute preoperative coaching session from a physiotherapist on breathing exercises can halve the incidence of postoperative pulmonary complications after upper abdominal surgery. However, there were several imbalances in the randomised groups that might explain some of the effect. The intervention group was younger, had lower American Society of Anaesthesiology scores; had fewer respiratory, diabetes and cardiac co-morbidities; had fewer current smokers and had a lower pack-year history. Additionally, the intervention group reportedly had higher preoperative handgrip strength and estimated VO₂max. Further, less upper gastrointestinal/hepatobiliary surgeries were performed in the intervention group. Are any of these large enough to create an unbalanced risk profile between intervention and control groups, and therefore cast doubt on the results? Probably not individually but collectively? The investigators undertook adjustments to their results for some baseline variables considered to potentially affect the primary outcome, but it is speculative whether this was sufficient. What is known is that presently, preadmission education by physiotherapists for those undergoing upper abdominal surgery is not usual care in Australian and New Zealand hospitals.1 Therefore, for clinical practice to change to occur, results have to pass the ‘water cooler test’. It intuitively seems too good to be true that such a minimal-risk preoperative intervention of ‘shock and awe’ education on risks of postoperative pulmonary complications along with coaching on breathing exercises would have the profound impact of halving complications in the upper abdominal surgery cohort. Implementation challenges could occur if decision-makers were not fully convinced by or committed to the results. Anecdotally, physiotherapy preoperative assessment and education of those undergoing ‘at-risk’ surgery, such as cardiac, lung lobectomy and upper abdominal surgery, was prevalent in the later part of the 20th century but funding for preoperative education, in the absence of evidence, has long been directed elsewhere. This trial is generating much conversation, but needs replicating across jurisdictions before the water cooler chatter can settle and practice change ensues.


https://doi.org/10.1016/j.jphys.2018.04.007

Commentary

Strong claims require strong evidence. The Lung Infection Prevention Post Surgery Major Abdominal with Pre-Operative Physiotherapy (LIPPSMAck-POP) is the latest and most robust trial postoperative pulmonary complications along with coaching on breathing exercises would have the profound impact of halving complications in the upper abdominal surgery cohort. Implementation challenges could occur if decision-makers were not fully convinced by or committed to the results. Anecdotally, physiotherapy preoperative assessment and education of those undergoing ‘at-risk’ surgery, such as cardiac, lung lobectomy and upper abdominal surgery, was prevalent in the later part of the 20th century but funding for preoperative education, in the absence of evidence, has long been directed elsewhere. This trial is generating much conversation, but needs replicating across jurisdictions before the water cooler chatter can settle and practice change ensues.


Shane Patman
School of Physiotherapy, The University of Notre Dame Australia, Perth, Australia

References


https://doi.org/10.1016/j.jphys.2018.04.007

Commentary

The trial results point towards an effective intervention in which a single 30-minute preoperative coaching session from a physiotherapist on breathing exercises can halve the incidence of postoperative pulmonary complications after upper abdominal surgery. However, there were several imbalances in the randomised groups that might explain some of the effect. The intervention group was younger, had lower American Society of Anaesthesiology scores; had fewer respiratory, diabetes and cardiac co-morbidities; had fewer current smokers and had a lower pack-year history. Additionally, the intervention group reportedly had higher preoperative handgrip strength and estimated VO₂max. Further, less upper gastrointestinal/hepatobiliary surgeries were performed in the intervention group. Are any of these large enough to create an unbalanced risk profile between intervention and control groups, and therefore cast doubt on the results? Probably not individually but collectively? The investigators undertook adjustments to their results for some baseline variables considered to potentially affect the primary outcome, but it is speculative whether this was sufficient. What is known is that presently, preadmission education by physiotherapists for those undergoing upper abdominal surgery is not usual care in Australian and New Zealand hospitals.1 Therefore, for clinical practice to change to occur, results have to pass the ‘water cooler test’. It intuitively seems too good to be true that such a minimal-risk preoperative intervention of ‘shock and awe’ education on risks of postoperative pulmonary complications along with coaching on breathing exercises would have the profound impact of halving complications in the upper abdominal surgery cohort. Implementation challenges could occur if decision-makers were not fully convinced by or committed to the results. Anecdotally, physiotherapy preoperative assessment and education of those undergoing ‘at-risk’ surgery, such as cardiac, lung lobectomy and upper abdominal surgery, was prevalent in the later part of the 20th century but funding for preoperative education, in the absence of evidence, has long been directed elsewhere. This trial is generating much conversation, but needs replicating across jurisdictions before the water cooler chatter can settle and practice change ensues.


Shane Patman
School of Physiotherapy, The University of Notre Dame Australia, Perth, Australia

References


https://doi.org/10.1016/j.jphys.2018.04.007