

Letter to the Editor: “Risk factors for postoperative pneumonia after lung cancer surgery and impact of pneumonia on survival”

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LETTER TO THE EDITOR

We have read with great interest the paper by Simonsen et al [1] on risk factors for postoperative pneumonia (POP) and the impact pneumonia has on survival of people after surgery for lung cancer. The authors stated in the conclusion paragraph that the presence of some risk factors for development of POP “*may lead to specific prophylactic measures including individualised antibiotic therapy*” [1]. Of note, preoperative exercise training was not mentioned as a prophylactic measure. It is well-known that preoperative exercise capacity (i.e. peak rate of oxygen uptake [$\text{VO}_{2\text{peak}}$]) is an independent predictor of postoperative pulmonary complications in people undergoing lung resection [2]. Importantly, as little as 3 weeks of high-intensity preoperative exercise training improves $\text{VO}_{2\text{peak}}$ in this population [3]. Therefore, referrals to preoperative exercise training should be considered, especially for those people with reduced $\text{VO}_{2\text{peak}}$ (i.e. $<10\text{ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$).

One of the secondary findings of the study by Simonsen et al [1], demonstrated that a prolonged time from diagnosis to surgery (i.e. >60 days) was not a risk factor for increased POP. This finding is of great importance when considering preoperative exercise training as both the patient and the multidisciplinary medical team have major concerns related to delaying lung resection for further assessments or interventions [4, 5]. This concern stems from the potential risk of tumour growth and spread, but also from the belief that delaying surgery could increase the risk of postoperative pulmonary complications. However, preoperative exercise training in people with lung cancer has been shown to decrease the incidence of postoperative pulmonary complications [4, 6]. Regarding tumour progression, a recent study on an animal model demonstrated that exercise training significantly mitigated tumour growth by increasing tumour apoptosis [7].

Currently, preoperative exercise training is still not part of the management of people undergoing lung resection for lung cancer [8]. We hope that the study by Simonsen et al [1], will facilitate the referral of people who require lung resection for lung cancer, particularly those characterised by poor exercise capacity, to short and intensive preoperative exercise training programs.

References

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