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Trimodal prehabilitation during neoadjuvant treatment for resectable non-small cell lung cancer: Preliminary results of a prospective cohort-study.

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Purpose

Complex and demanding neoadjuvant treatment regimens lead to reduced performance in patients with Non-Small Cell Lung Cancer (NSCLC), which can increase perioperative morbidity and prolong postoperative recovery. Combining multimodal prehabilitation with chemo- and immunotherapy may provide an opportunity to rapidly initiate cancer-directed therapy while improving functional status in preparation for local consolidation.

Methods

IMPROVE is a prospective cohort study currently conducted at the University Medical Center Freiburg, Germany. Patients with an indication for neoadjuvant treatment for locally advanced NSCLC are offered to undergo concurrent prehabilitation therapy, consisting of a personalized exercise program, an individual dietary plan and a psychosocial support session. Primary outcomes are completion rate of neoadjuvant therapy, postoperative morbidity status, functional status (assessed by 6-minute walk test, handgrip strength, cardiopulmonary exercise testing) and quality of life (EORTC QLQ-C30, EORTC QLQ-LC13). Outcomes are assessed preoperatively (t0), postoperatively (t2) as well as 3, 6, and 12 months (t3, t4, t5) after resection.

Results

Preliminary analyses of the currently available cohort (n = 5, mean age 65.4 years, range 54–70) show that all patients completed three to four cycles of neoadjuvant chemo- (n = 1) or chemo-immunotherapy (n = 4). Participants attended one to two supervised exercise sessions per week, received up to five nutritional counseling sessions, and one psychosocial support session. Data on spirometry, 6-minute walk test, cardiopulmonary exercise testing, and patient-reported outcomes are currently being collected, the final analysis of the entire cohort is pending.

Conclusions

Early observations demonstrate that multimodal prehabilitation can be integrated into neoadjuvant treatment pathways for NSCLC, with good adherence to exercise, nutrition, and psychosocial components. Conclusions on postoperative morbidity, long-term recovery, and overall program impact will be drawn once data collection and analysis are completed.

Keywords

preoperative exercise; nutrition therapy; psychosocial intervention; carcinoma, non-small cell lung

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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