

PT2.06.01: Impact of Diabetes and Preoperative Glycemic Control on Patient-Reported Outcomes After Lung Cancer Surgery: A Prospective Cohort Study

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INTRODUCTION

- Diabetes is a common comorbidity in patients undergoing lung resection, but its influence on longitudinal patient-reported outcomes (PROs) remains underexplored.
- This study aimed to compare postoperative PROs trajectories between patients with and without diabetes.
- And to evaluate the effect of short-term preoperative glycemic control on recovery profiles in patients with diabetes.

METHODS

Design: Prospective cohort study (April 2021 - June 2025).

Participants: 3,538 patients undergoing lung resection.

PRO instrument: Perioperative Symptom Assessment for Lung Surgery (PSA-Lung), repeated over 1-year follow-up.

Matching: Propensity score matching (PSM) to balance baseline covariates between patients with and without diabetes.

Glycemic stratification (patients with diabetes only): Good vs. poor control based on 3-day preoperative mean fasting and 2-hour postprandial blood glucose.

Statistical analyses:

Trajectories: Generalized estimating equations (GEE) for group-by-time interactions.

Recovery time distributions: Kaplan-Meier with log-rank tests.

CONCLUSIONS

In patients undergoing lung resection, diabetes and poor preoperative glycemic control were associated with delayed postoperative recovery across multiple PRO domains, warranting closer monitoring and individualized supportive care.

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Artificial Intelligence (AI) Use Disclaimer

No artificial intelligence (AI) tools or large language models were used in the development of any content, data analysis, or manuscript/poster preparation for this study.

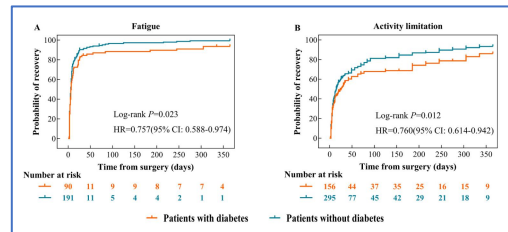


Fig 2. Recovery times of fatigue and activity limitation following lung resection in patients with and without diabetes.

RESULTS

- After matching, 223 patients with diabetes and 444 without diabetes were included.
- Patients with diabetes experienced significantly longer recovery times for fatigue (7 vs. 6 days; $P = 0.023$) and activity limitation (26 vs. 15 days; $P = 0.012$). Between postoperative months 2 and 12, significant group-by-time interactions were observed for cough ($P = 0.026$), fatigue ($P = 0.018$), and activity limitation ($P = 0.014$).
- Among patients with diabetes, poor preoperative glycemic control was associated with delayed recovery from disturbed sleep (11 vs. 6 days; $P = 0.023$), walking difficulty (49 vs. 12 days; $P = 0.020$), and activity limitation (63 vs. 12 days; $P = 0.001$). Significant group-by-time interactions were also observed for pain ($P = 0.008$) and walking difficulty ($P = 0.032$) during hospitalization, and for cough ($P = 0.006$) during the first month after discharge.

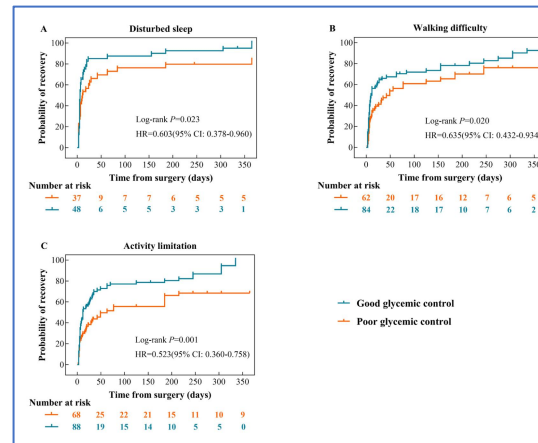


Fig4. Kaplan-Meier estimated symptom recovery time and functional impairment recovery time after surgery in patients with diabetes stratified by glycemic control status.

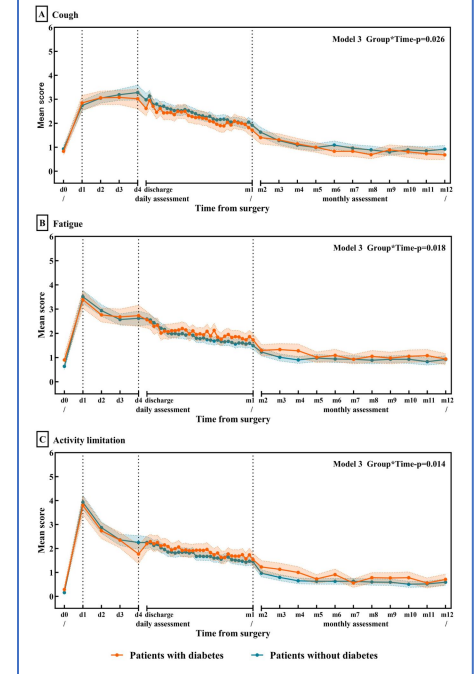


Fig1. Trajectories of symptoms and functional impairments by diabetes status.

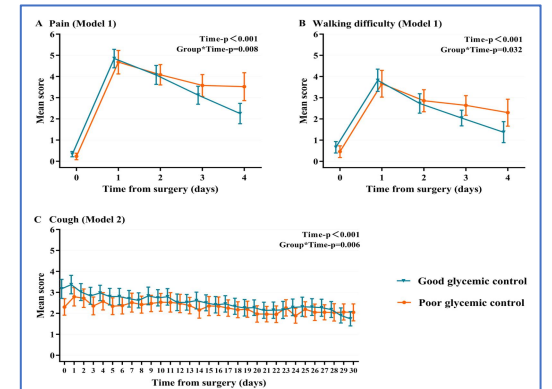


Fig3. Trajectories of symptoms and functional impairments between good and poor glycemic control during the early recovery phase.