

INTRODUCTION

Postoperative complications remain frequent following resection for stage I–IIIa non-small cell lung cancer (NSCLC).

Routinely available preoperative variables, including pulmonary function, comorbidities and ECOG performance status, are commonly used to assess surgical risk. However, previous studies have reported inconsistent associations between these variables and postoperative complications.

Objective functional assessments have been proposed as complementary tools for preoperative evaluation, but their role in routine clinical practice remains unclear.

AIM

To evaluate the association between routinely available preoperative variables and postoperative complications in patients undergoing curative-intent pulmonary resection for stage I–IIIa NSCLC.

METHODS

Design: Retrospective cohort study

Setting: Capital Region of Denmark

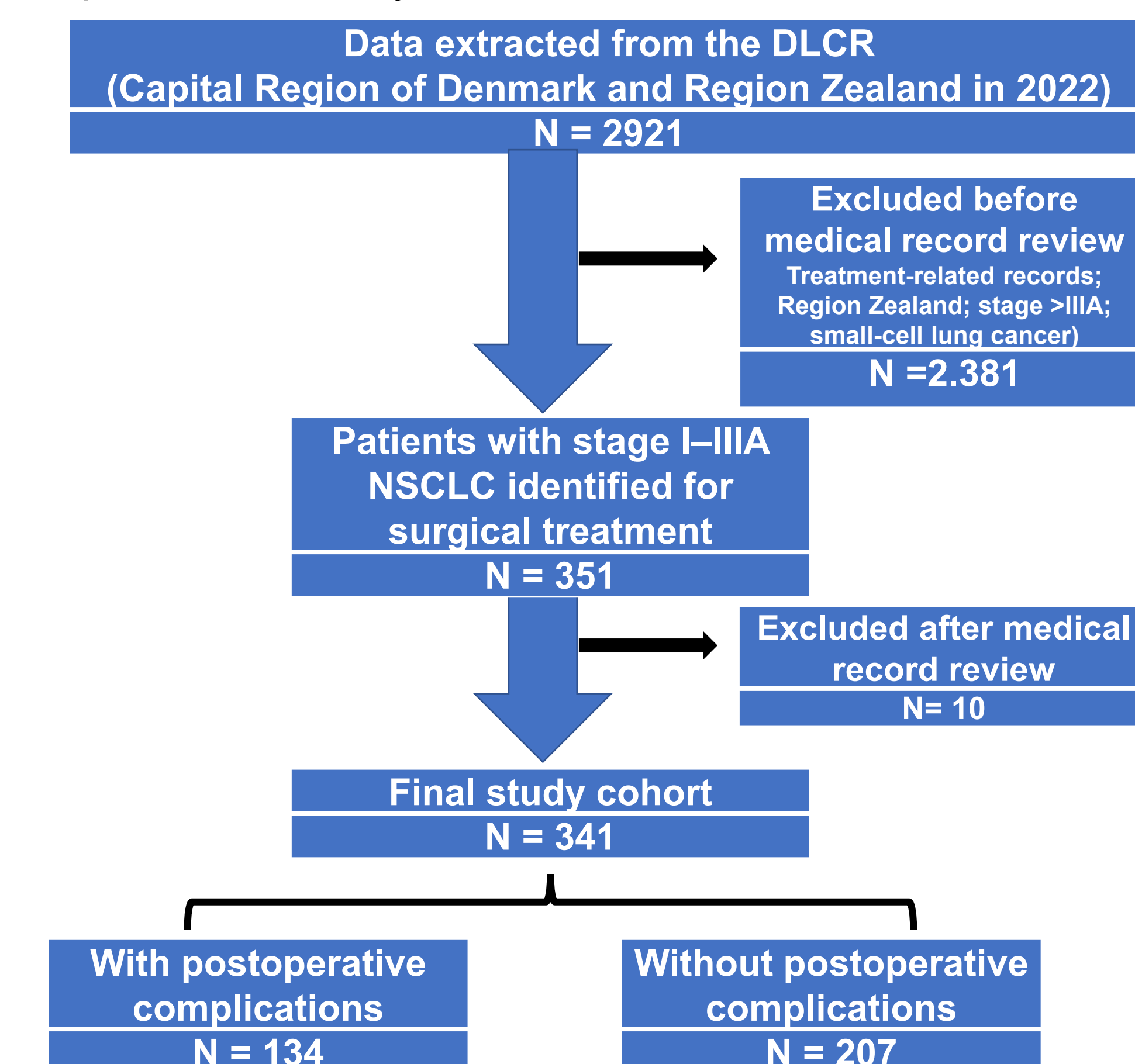
Population: Patients with stage I–IIIa NSCLC undergoing pulmonary resection in 2022

Data: Danish Lung Cancer Registry and electronic health records

Primary outcome: Postoperative complications

Secondary outcome: Overall survival according to postoperative complication status

Analysis: Univariable and multivariable logistic regression; Kaplan–Meier analysis for overall survival



DISCUSSION AND CONCLUSION

Actionable TakeAway Message

- Routinely available preoperative variables showed limited associations with postoperative complications.
- No patient-related preoperative variable remained independently associated with complications after adjustment.
- Objective functional assessments were not documented in any patient

Future Direction for Research

- Prospective studies should investigate multidimensional risk assessment incorporating objective functional capacity and other measures of physiological reserve

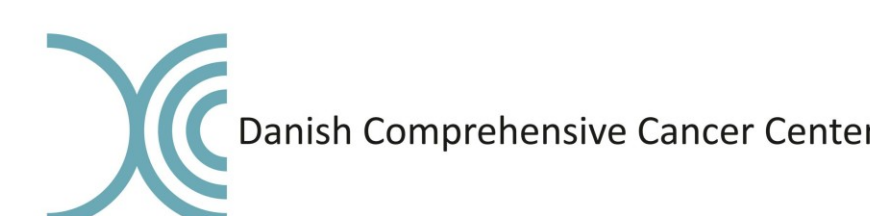
REFERENCES & ACKNOWLEDGEMENTS

Key References

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Acknowledgements

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Danish Cancer Society

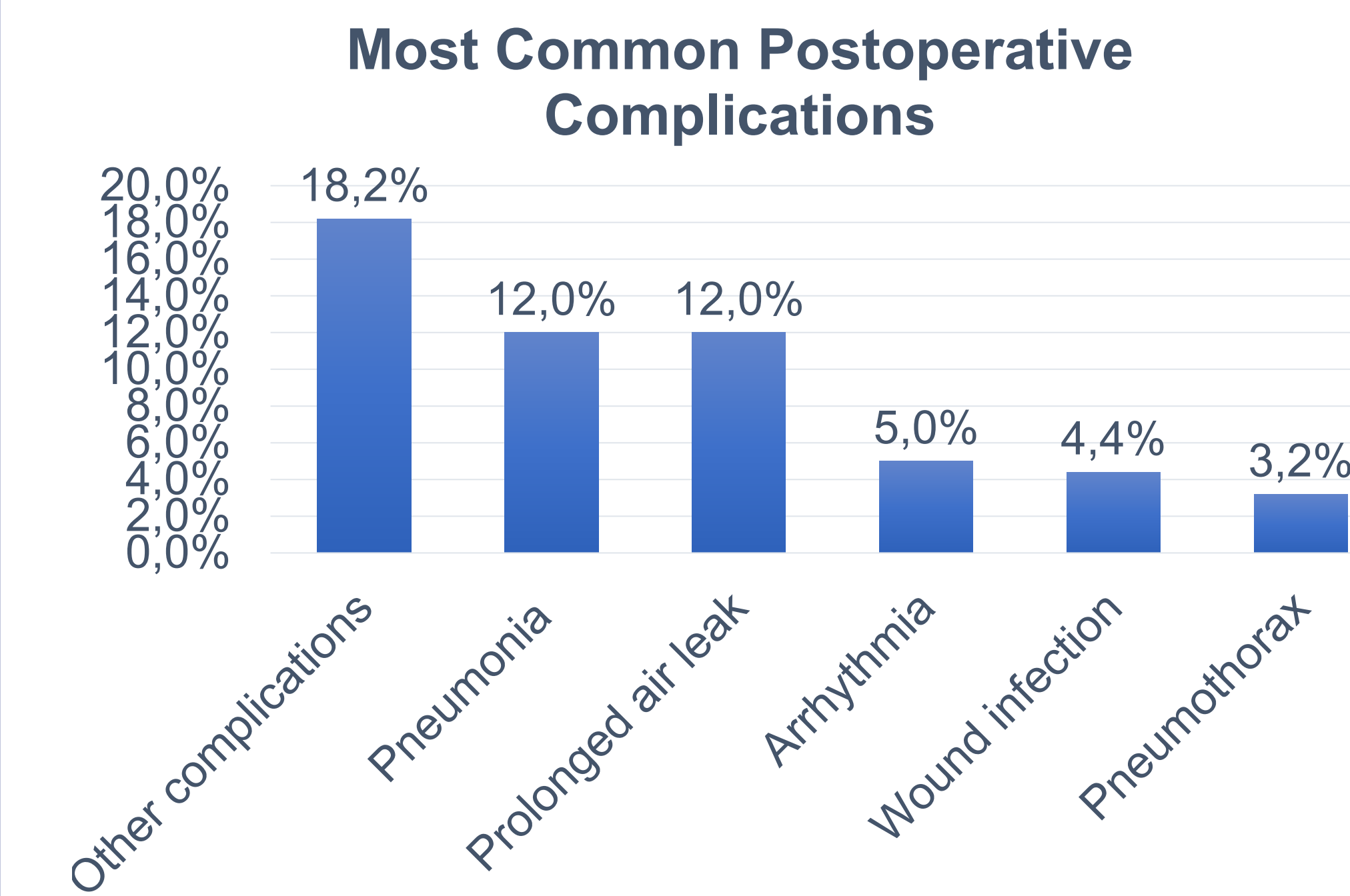
Artificial Intelligence (AI) Use Disclaimer

ChatGPT (OpenAI) was used for language editing and text refinement. All scientific content, analyses and data were independently reviewed and verified by the authors.

RESULTS

POSTOPERATIVE COMPLICATIONS

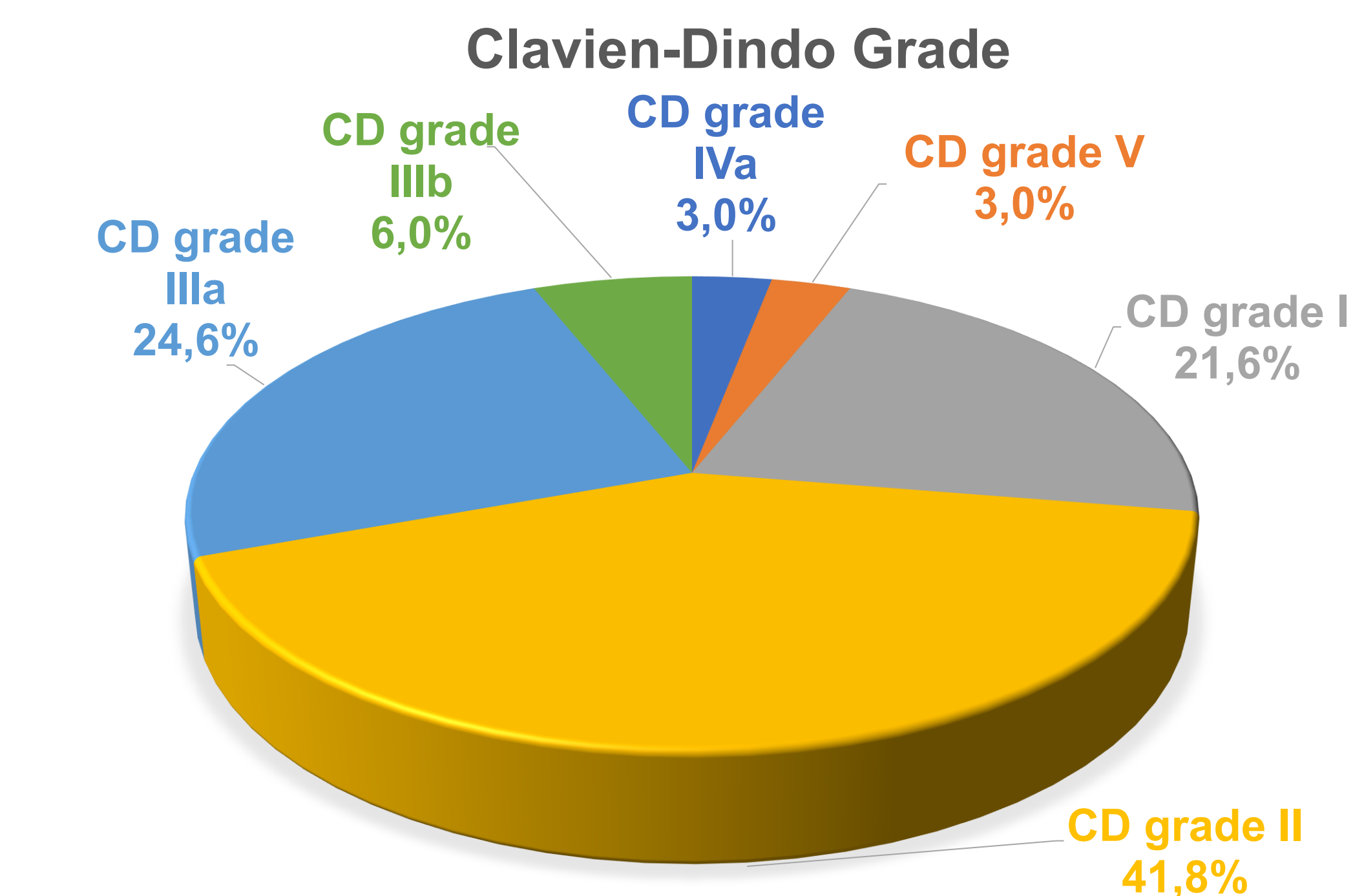
39.3% (134/341) patients experienced ≥ 1 postoperative complications



Other complications (18.2%) included complications recorded in the DLCR that were not captured by the predefined categories; specific complication details were not available.

COMPLICATION SEVERITY

36.6% of patients with postoperative complications experienced a $\geq$ Grade III complications



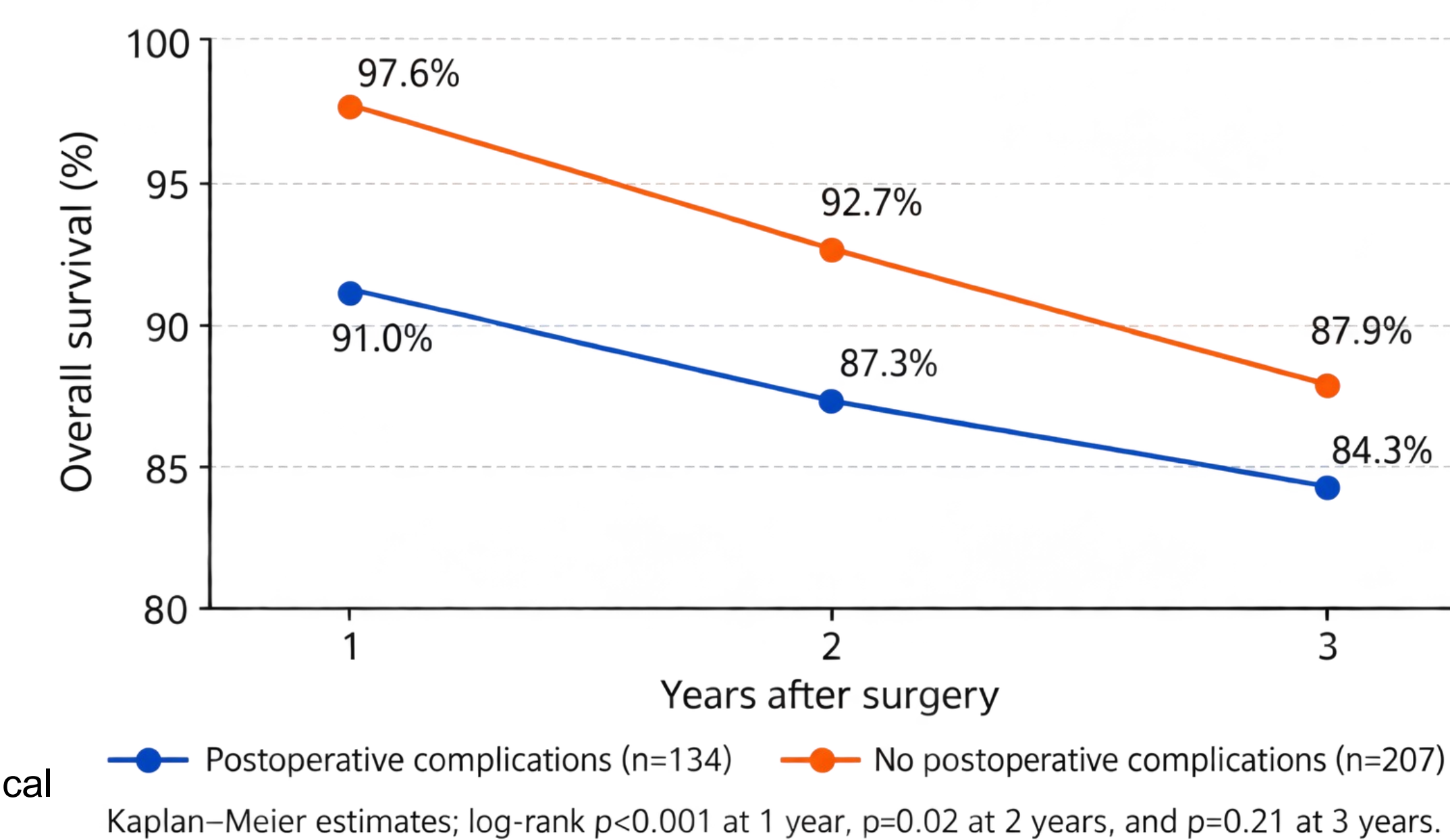
For patients with multiple postoperative complications, only the highest Clavien-Dindo grade is shown.

MULTIVARIABLE ANALYSIS

Risk factor	OR	95% CI	P-value
VATS wedge resection vs VATS lobectomy	0.39	0.17–0.83	0.02
Neurological/psychological disorder, ≥ 1 vs none	2.24	0.93–5.61	0.08
ECOG PS 1 vs 0	0.97	0.54–1.73	0.93
ECOG PS 2–3 vs 0	2.31	0.85–6.58	0.11

Adjusted for sex, age, stage at diagnosis, FEV₁ % predicted, DLCO % predicted, ECOG PS, somatic comorbidities, cardiac comorbidities, neurological/psychological disorders, and operative procedure. OR, odds ratio; CI, confidence interval.

OVERALL SURVIVAL

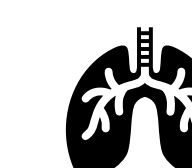


Objective Functional Assessment

0/341

No patients had documented objective functional assessments before surgery

CPET



6-Minute Walk Test



Chair Stand Testing



Gait Speed

