

P2.100: Closing the Gap in Thoracic Oncology: Stage-Specific Survival Gains in NSCLC Through Modern Treatment Modalities

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INTRODUCTION

Changes in NSCLC treatment, 2011-2021:

- Throughout this decade, checkpoint inhibitors (ICI) were introduced as a 2nd line therapy and subsequently became standard of consolidation after chemoradiotherapy and perioperative NGS-guided therapy and locally ablative treatment (LAT) of oligometastatic disease entered practice.

Limitations of the available evidence:

- Real-world data covering both treatment eras under consistent multidisciplinary standards remain scarce

Rationale for this study:

- To quantify how therapeutic advances translated across disease stages and identify remaining gaps

METHODS

Design: a single-center, retrospective cohort study at Lung and Thoracic Oncology Center (LTZ), leveraging real-world data

1,406 NSCLC Patients

Historic cohort
767 patients

Modern cohort
639 patients

Characteristics

Age, Gender, Histological subtype, AGAs, PD-L1 expression status, Treatment types, Treatment lines

1st January 2011 –
31st December 2015

1st January 2018 –
31st December 2021

Survival & Survivor functions equality

Kaplan-Meier analysis; Max follow up: up to 50 months; Log-rank test; Fisher's exact test

RESULTS

Patients:

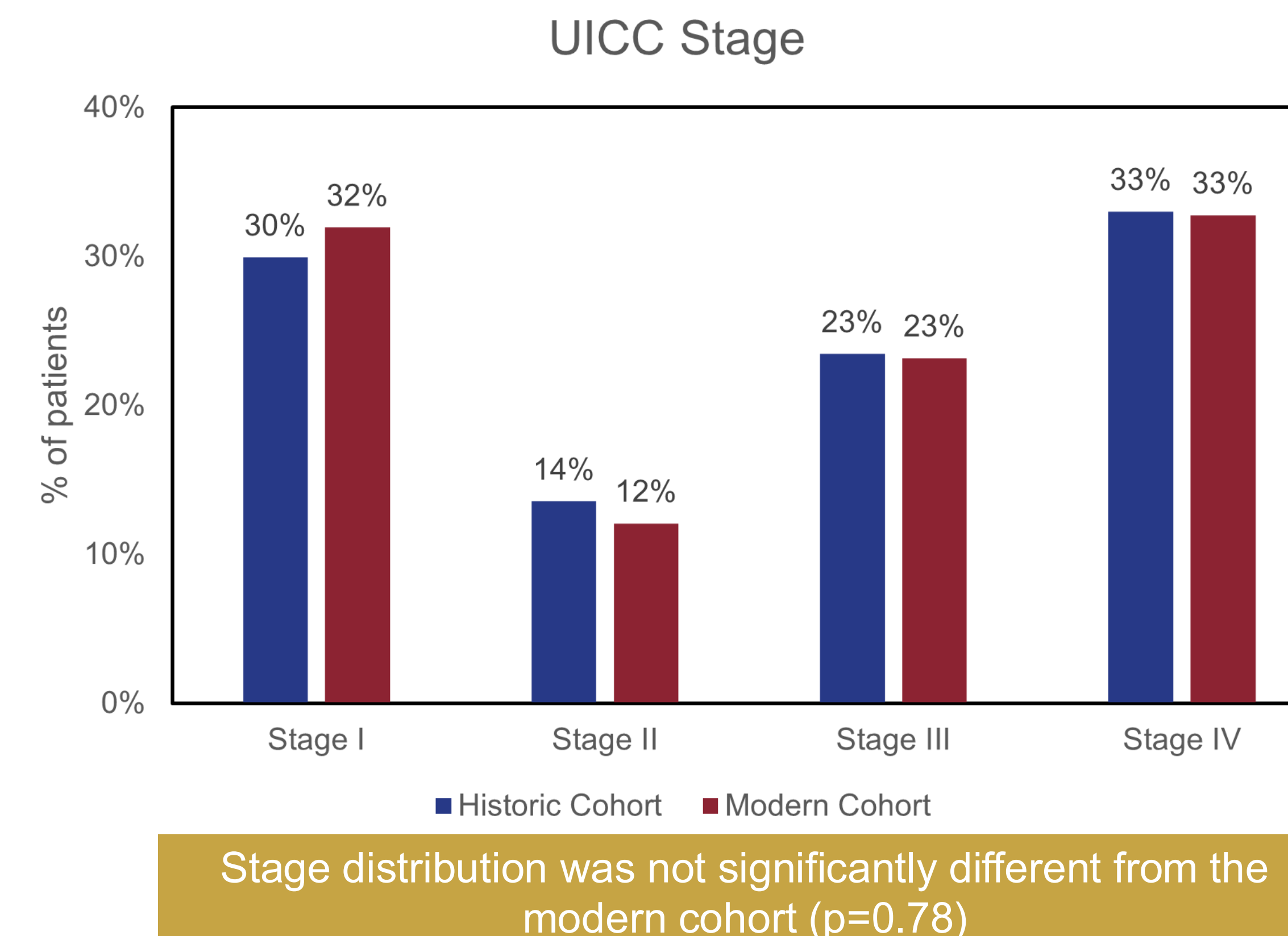
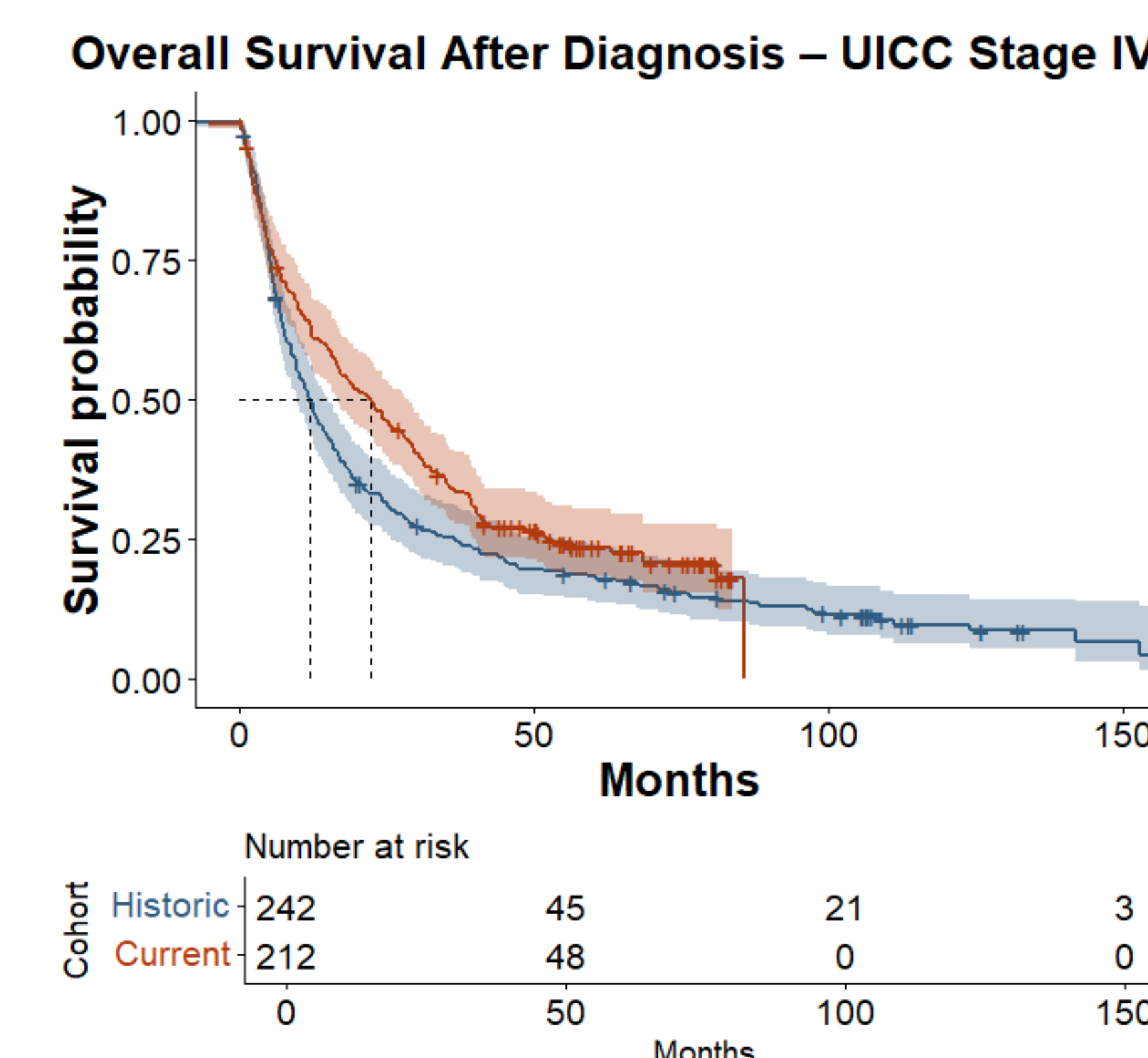
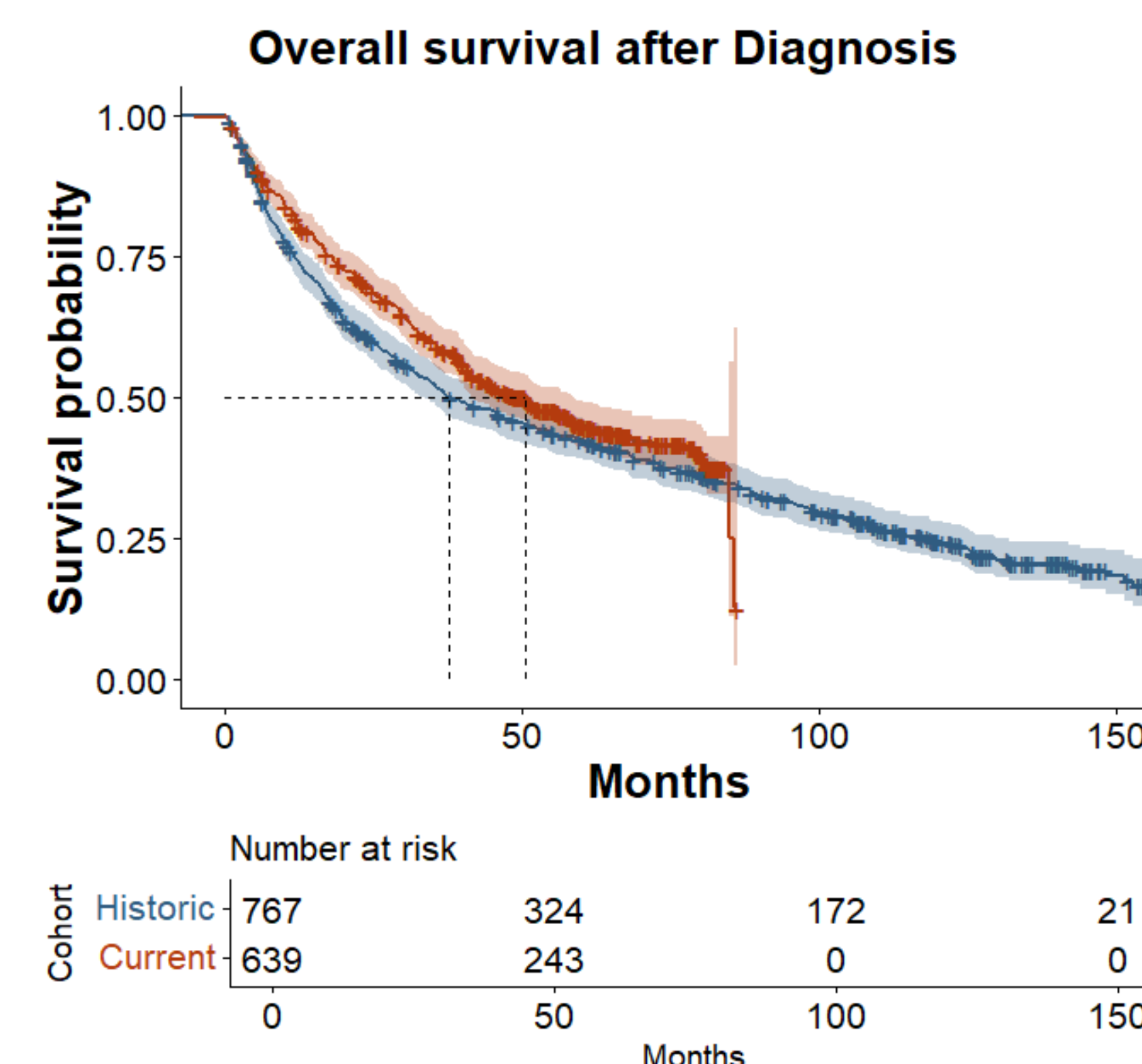
- 1,406 NSCLC cases** were analyzed, with 767 cases assigned to the historic cohort and 639 cases to the modern cohort
- The number of newly diagnosed patients was similar** over both periods except for 2020, when fewer patients were diagnosed during the COVID-19 pandemic
- The historic cohort was followed for more than **150 months**, the modern cohort for up to **85 months**
- Survival** at 1 and 3 years is therefore **reliable** in both cohorts, while long-term estimates for the modern cohort are still immature

Survival:

- 1-year survival increased from 73.2% to 81.0% ($p=0.001$) and 3-year survival from 48.0% to 53.8% ($p=0.02$) in the modern cohort
- Median overall survival increased from 37.8 to 50.7 months ($p=0.0495$)

Stage-by-stage analysis:

- Stage I:** no meaningful difference; survival already high in the historic cohort
- Stage II:** no improvement; median 60.6 vs 60.5 months ($p=0.9$); small subgroup ($n=186$)
- Stage III:** 1- and 3-year survival improved: 73.2 → 81.0% ($p=0.001$); and 48.0 → 53.8% ($p=0.02$), respectively
- Stage IV:** largest gain; median 12.1 vs 22.2 months ($p=0.02$), 1-year survival 49.2% vs 62.9% ($p=0.005$); plateau from year 3



DISCUSSION AND CONCLUSION

This retrospective comparison from one of the largest high-volume thoracic centers in Switzerland represents two distinct treatment eras

Modern treatment advances translate into longer survival:

- Already in 2011-2015, LTZ patients survived longer than the cantonal population with NSCLC⁷
- Median OS at the LTZ increased by 12.9 months between the pre- and post-immunotherapy eras (37.8 vs 50.7 months; 3-year survival 48% vs. 54%), consistent with other large nationwide data (8.5 vs 20.7 months, between 2000 and 2020)¹¹

A subset of patients with metastatic NSCLC now achieve long-term survival:

- In stage IV, median survival nearly doubled (12.1 vs 22.2 months) and the curve plateaus from year three. Large datasets show similar trend: median OS in stage IV patients in the US National Cancer Database increased by 54% between 2010-13 and 2018-20¹², while 21% of patients with metastatic disease in French 2020 cohort were alive at three years¹¹

Long-term survival estimates in the modern cohort remain immature:

- Shorter follow-up in the modern cohort (~7 vs >12 years) limits long-term outcome estimates

REFERENCES & ACKNOWLEDGEMENTS

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