

INTRODUCTION

Lung cancer in women frequently occurs in never-smokers and exhibits distinct molecular profiles. We aimed to characterize the clinical features, oncogenic drivers, and survival outcomes of women with metastatic or unresectable lung cancer at a specialized center in Colombia.

METHODS

Design:

We conducted a retrospective cohort study of women with metastatic or unresectable lung cancer treated at Clínica Universitaria Colombia (Bogotá, Colombia) between 2020 and 2025. Real-world first-line PFS (rwPFS) and overall survival (rwOS) were estimated using Kaplan–Meier analysis, with reverse Kaplan–Meier used to estimate follow-up.

ACKNOWLEDGEMENTS



RESULTS: Clinical

The cohort (n=85) was characterized by a predominance of adenocarcinoma and never-smokers (74.1%). Most patients had ECOG 0–1 (70.5%), while brain metastases were present at diagnosis in 25.8%.

Molecular profiling was primarily performed using tissue biopsy (88.2%).

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Colombian women with advanced lung cancer showed an exceptionally high prevalence of actionable oncogenic drivers (83%) and a median real-world overall survival exceeding six years.

Future Direction for Research

- The future of lung cancer care in Latin American women will increasingly depend on universal molecular testing and equitable access to precision therapies

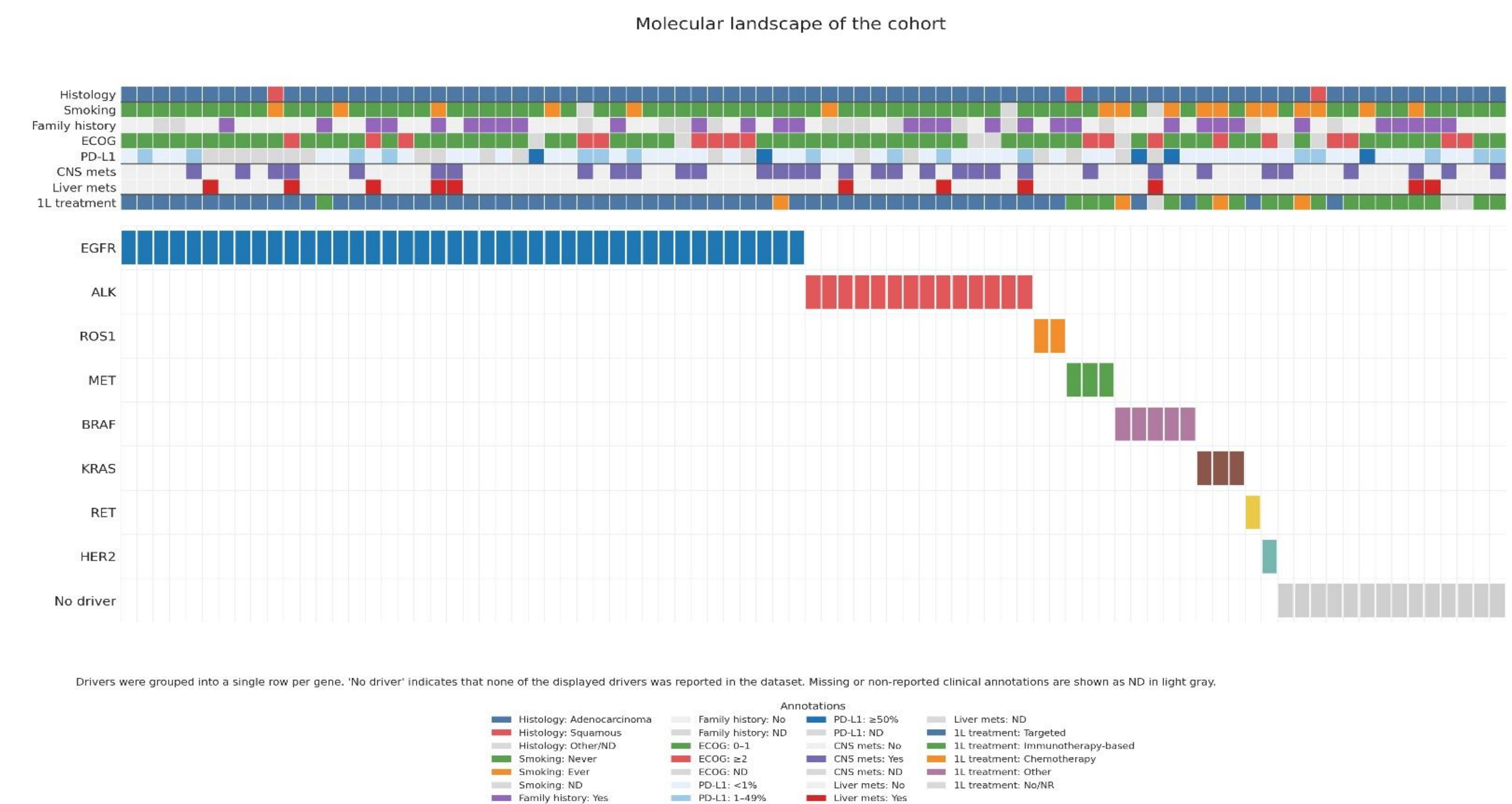
Artificial Intelligence (AI) Use Disclaimer

ChatGPT (OpenAI) and Claude (Anthropic) were used for language editing, grammar, and style refinement. AI-assisted tools were also used to support data analysis and code development in Google Colab. All outputs, analyses, interpretations, and final content were independently reviewed and validated by the authors.

RESULTS: Molecular & Survival

EGFR was the most common driver alteration (49.4%), predominantly exon 19 deletions (31.8%) and L858R mutations (10.6%); ALK rearrangements were identified in 16.5%. The most frequently used first-line regimens were Osimertinib (34.1%), pembrolizumab–chemotherapy (KEYNOTE-189, 16.5%), Alectinib (15.3%), and osimertinib–chemotherapy (FLAURA2, 11.8%).

Median 1L rwPFS was 41.3 months (95% CI, 20.3–51.0), while median rwOS was 72.5 months (95% CI, 51.2–NE). Median follow-up estimated by the reverse Kaplan–Meier method was 32.2 months (95% CI, 26.0–42.0).



Survival Analysis of the Lung Cancer Cohort

Kaplan–Meier estimates from diagnosis with censor marks and numbers at risk

