

Clinical Characteristics and Outcomes of ALK-Rearranged NSCLC in Chile: A Multicenter Retrospective Series

D. Carrillo^{1,2,3*}, J. López^{1,2}, A. Erazo¹, N. San Martín¹, P. Muñoz-Scuffenegger^{1,2}, M. Solovera^{1,2}, P. Salas^{1,2}, M. Parra^{1,2}, J. Valbuena^{1,2}, M. Abud^{1,2}, P. Zoroquiain^{1,2}, R. Abud^{1,2}, M. Rivas³, J. Peña^{1,3}, H. Galindo^{1,2*}, J. Hevia^{1,2}

¹ Pontificia Universidad Católica de Chile · ² Red de Salud UC-CHRISTUS · ³ Hospital Dr. Sótero del Río — Santiago, Chile

*Corresponding author: dicarrillo@uc.cl (D. Carrillo)

INTRODUCTION

Latin American data on patients with ALK-rearranged non-small cell lung cancer (NSCLC) remain limited. We report a retrospective series from two Chilean academic centers.

METHODS

Retrospective study of patients diagnosed with locally advanced, metastatic, or recurrent ALK-rearranged NSCLC between 2017 and 2026 at two tertiary hospitals. Clinical, pathological, treatment and survival data were collected from medical records. Overall survival (OS) was analyzed using Kaplan–Meier estimates, log-rank testing and Cox regression. Attrition between treatment lines was also assessed.

COHORT PROFILE

529	52
NSCLC patients screened	ALK-rearranged (9.8%)*
56.8 y	73.1%
Median age (range 15.4–86.7)	Never or light smokers

LIMITATIONS

Retrospective series from two centers, with a limited sample size. No multivariate analysis was performed to adjust for potential confounders. ALK testing was not performed routinely in all patients with NSCLC, which may inflate the observed ALK-positivity rate through selection bias.* Data were abstracted from medical records; missing or incomplete information cannot be excluded.

TABLE 1. BASELINE CHARACTERISTICS

Baseline characteristics (n = 52)	n (%) or median [range]
Age at diagnosis, years	56.8 [15.4–86.7]
Sex, male	27 (51.9)
Smoking status, pack-years	
Never	24 (46.2)
Light (< 10 PY)	14 (26.9)
Moderate (10–19 PY)	7 (13.5)
Heavy (≥ 20 PY)	7 (13.5)
ECOG performance status	
0	31 (59.6)
1	12 (23.1)
≥ 2	9 (17.3)
Histologic subtype	
Adenocarcinoma	43 (82.7)
Adenosquamous	4 (7.7)
Squamous	3 (5.7)
NOS	2 (3.8)
PD-L1 TPS status (n = 40)	
< 1%	15 (37.5)
1–49%	14 (35)
≥ 50%	11 (27.5)

Baseline demographic, clinical and pathological characteristics of the 52 patients with ALK-rearranged NSCLC. PD-L1 tumour proportion score was available in 40 patients.

RESULTS

- 529 NSCLC patients were screened; 52 (9.8%) were ALK-rearranged*
- Detected by immunohistochemistry in 67.3% and by next-generation sequencing in 17.3%
- 76.9% metastatic at diagnosis; among them, 42.9% with CNS involvement and 24.5% oligometastatic
- Median follow-up 52 months (95% CI 33.2 – 92.1).
- Cancer-associated thrombosis occurred in 26.9% during follow-up
- Attrition from first- to second-line treatment was 41.9%

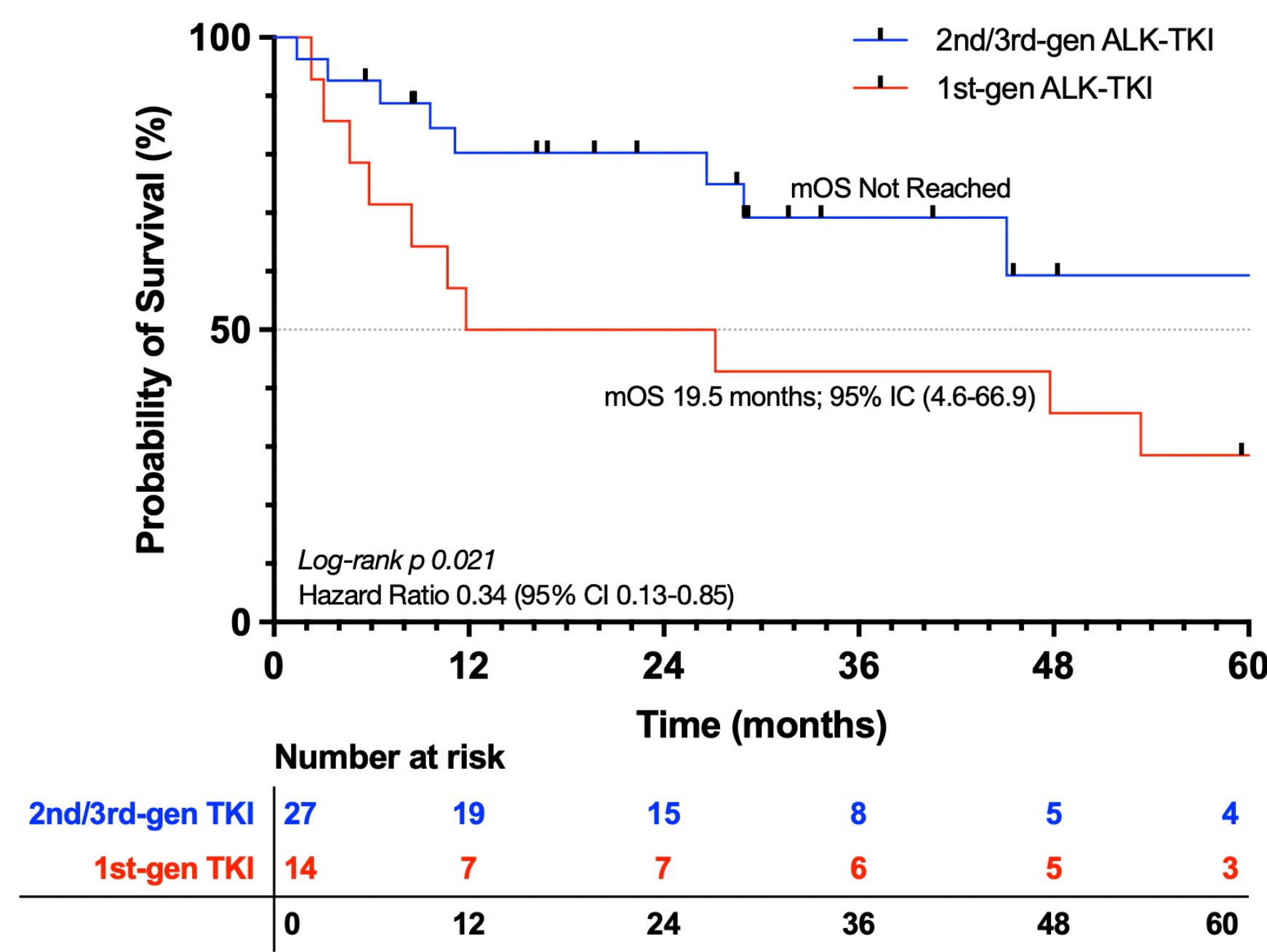


Figure 1. Kaplan-Meier estimate of overall survival in the recurrent/metastatic ALK-positive NSCLC cohort by first-line ALK-TKI generation (2nd/3rd- vs. 1st-generation), calculated from treatment initiation.

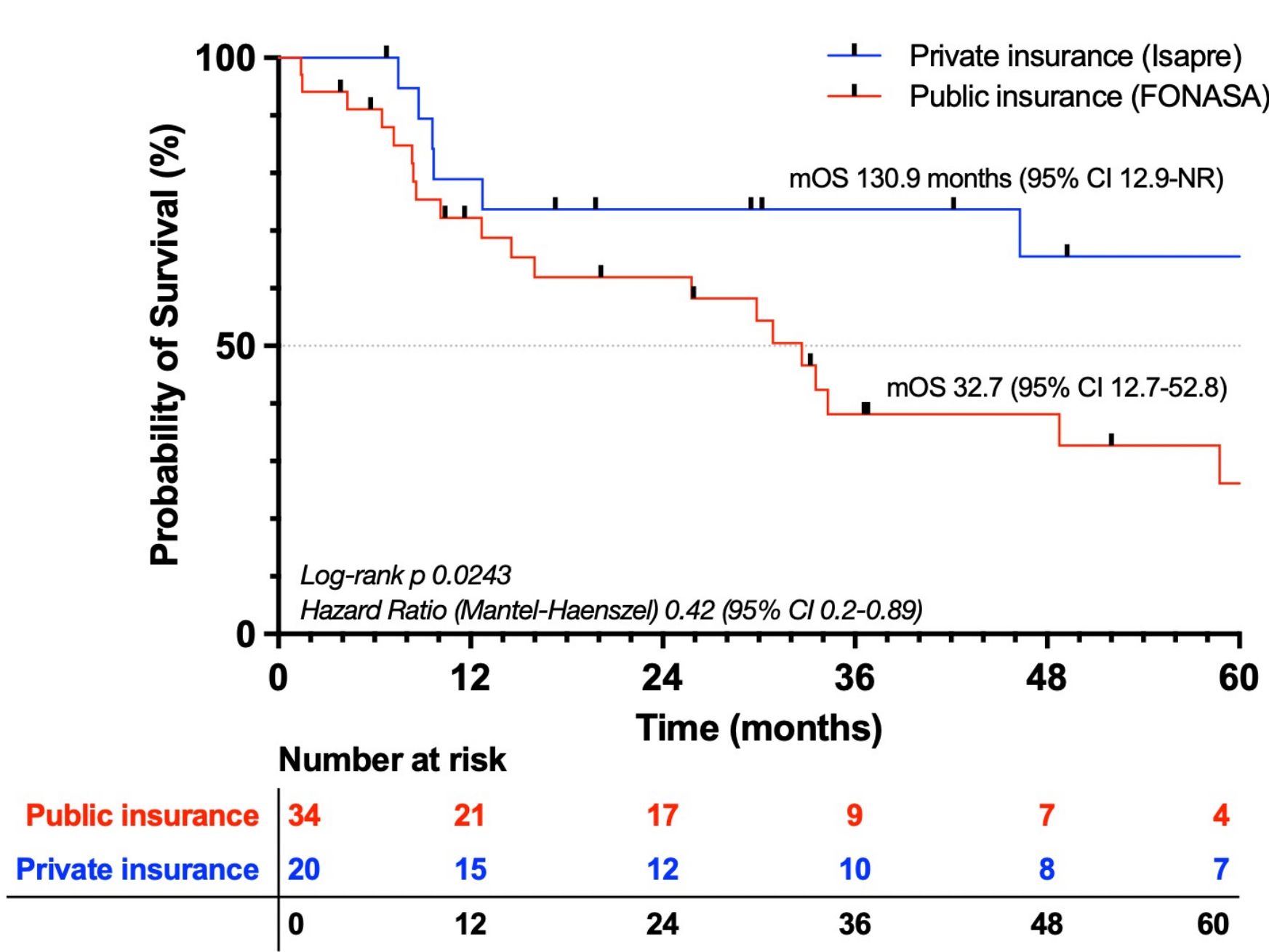


Figure 2. Kaplan-Meier estimate of overall survival in the recurrent/metastatic ALK-positive NSCLC cohort by health insurance type.

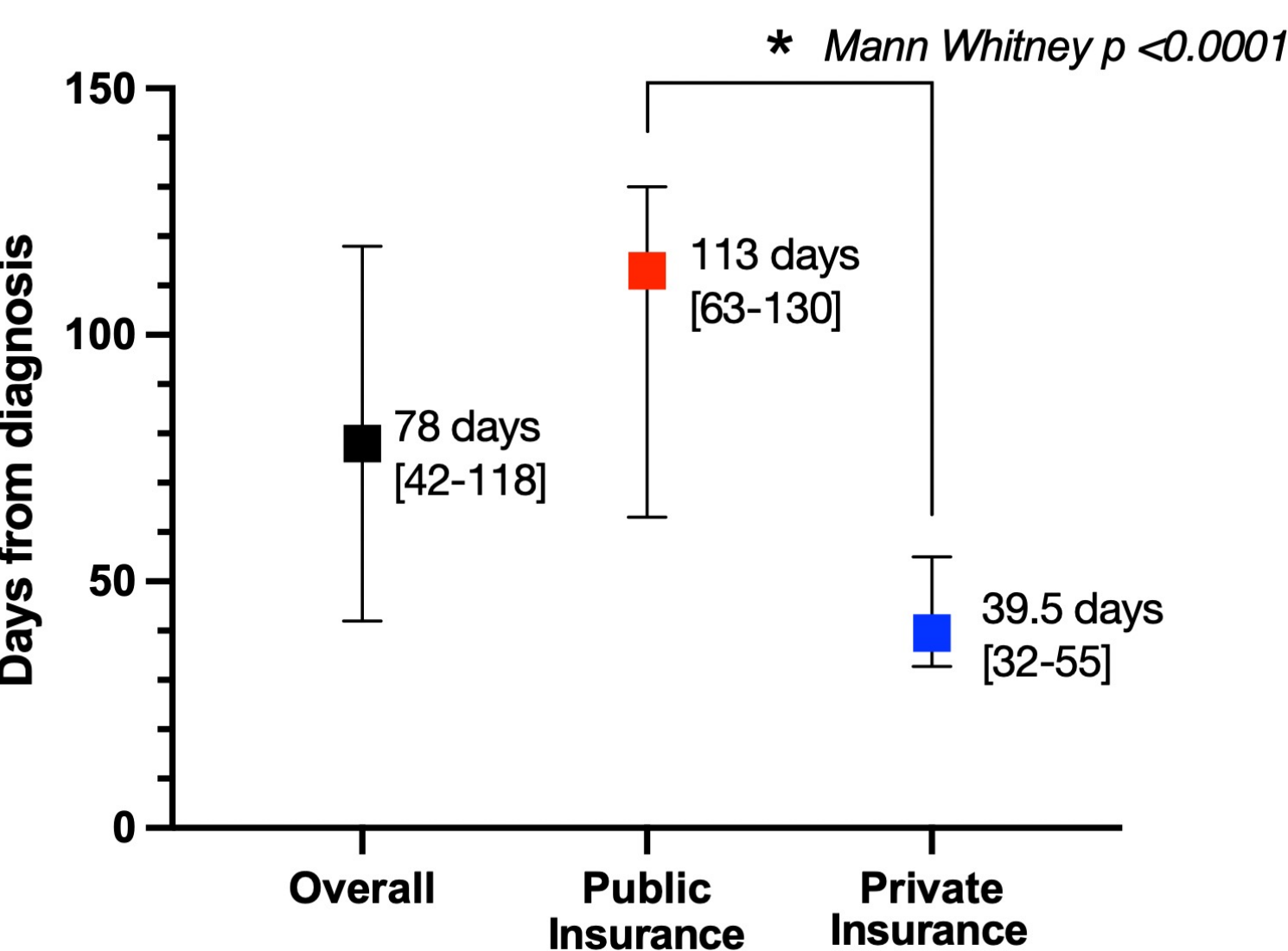


Figure 3. Median time (days) from diagnosis of metastatic/recurrent disease to initiation of first-line systemic therapy, by insurance type. Error bars represent the interquartile range.

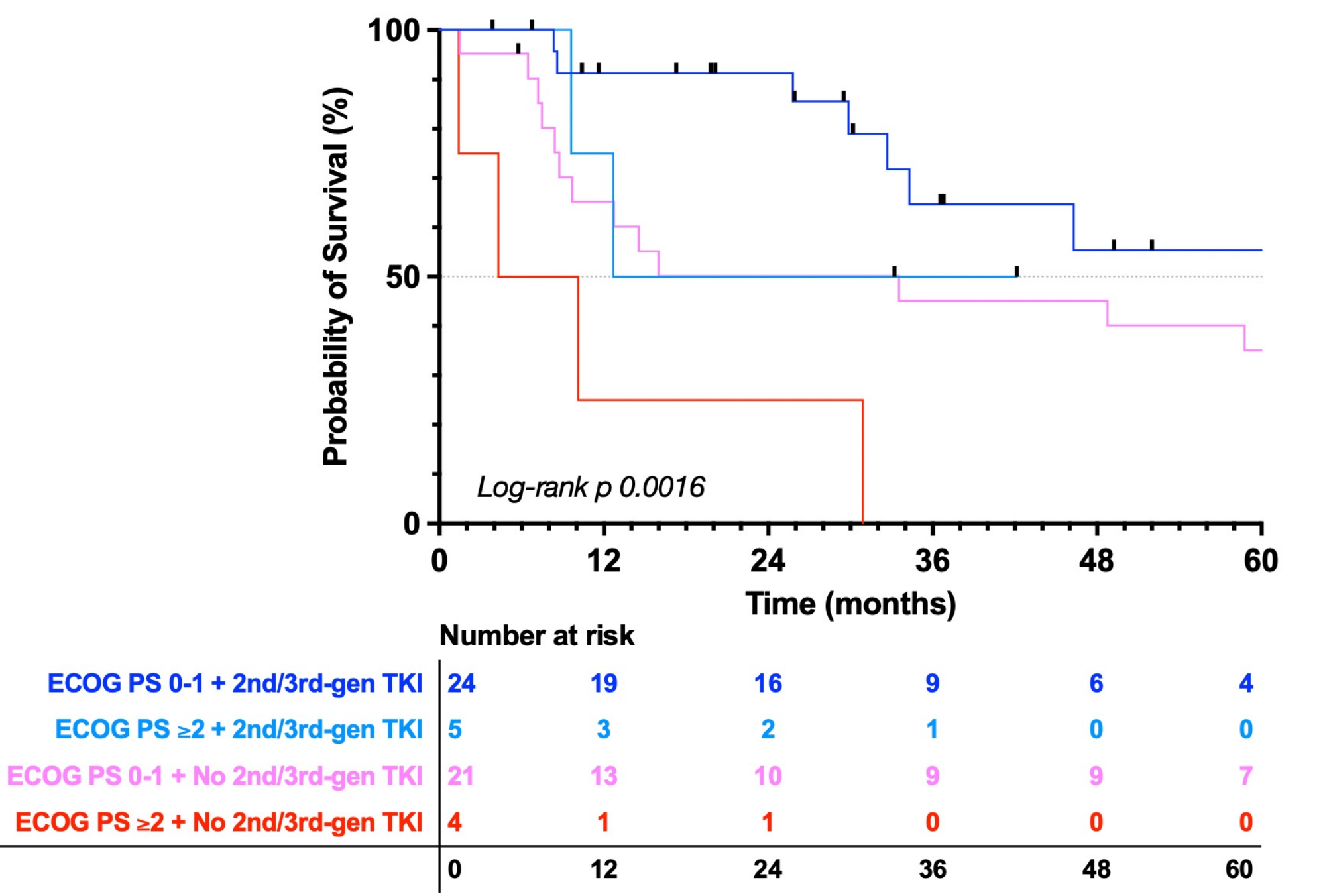


Figure 4. Kaplan-Meier estimate of overall survival by ECOG performance status and first-line ALK-TKI generation.

CONCLUSIONS ALK-rearranged NSCLC in this Chilean cohort frequently presented with a high proportion of CNS involvement. Substantial attrition between treatment lines underscores the importance of optimizing initial therapy, particularly in real-world settings where access to subsequent lines may be limited.