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EGFR-Targeted Therapy in Advanced Lung Cancer: Insights From Two High-Volume Oncology Centers in Chile

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INTRODUCTION

EGFR-targeted therapy data from Latin America remain scarce. We report a multicenter retrospective cohort of Chilean patients with EGFR-mutated advanced NSCLC.

METHODS

Retrospective study of Chilean patients with NSCLC tested for EGFR mutations (2015–2026) at two high-volume oncology centers. The primary endpoint was overall survival (OS), analyzed using Kaplan–Meier estimates and multivariable Cox proportional-hazards models.

LIMITATIONS

Retrospective series from two centers, limited sample size.

EGFR testing was not performed routinely in all patients with NSCLC, which may inflate the observed EGFR-positivity rate.*

Data were abstracted from medical records; missing or incomplete information cannot be excluded.

COHORT PROFILE

377
NSCLC patients tested

110
EGFR-mutated (29.2%)*

70%
Female

67 y
Median age (IQR 55–73)

59%
No smoking history

94.5%
Adenocarcinoma

79%
Metastatic at diagnosis

41%
Brain metastases*

** Among patients with metastatic disease at diagnosis.*

TABLE 1. COHORT CHARACTERISTICS

Characteristic	N = 110 \| n (%)
Female	77 (70.0)
Age at diagnosis, years	66.5 (27.2-89.2)
Smoking status	
Never	65 (59.1)
Former	35 (31.8)
Active	7 (6.4)
Pack-years (ever smokers, n = 44)	
<10	16 (36.4)
10 to <20	8 (18.2)
≥20	17 (38.6)
Histology	
Adenocarcinoma	100 (90.9)
Squamous cell carcinoma	3 (2.7)
Non-small-cell carcinoma (NOS)	2 (1.8)
Other	1 (0.9)
Unknown	4 (3.6)
Disease at diagnosis	
Metastatic	87 (79.1)
Non-metastatic	23 (20.9)
EGFR detection method	
PCR	65 (59.1)
Liquid biopsy	20 (18.2)
NGS	4 (3.6)
Unknown / missing	21 (19.1)
EGFR mutation subtype	
Exon 19 deletion	57 (51.8)
L858R	34 (30.9)
Exon 20 insertion	4 (3.6)
Compound variants	3 (2.7)
Other variants	9 (8.2)
Not specified	3 (2.7)

Values are n (%), except age: median (min-max).
Smoking status: 3 unclassified. Pack-years: 3 missing among 44 ever smokers.
Mutation categories are mutually exclusive.
Compound variants: del19 + L858R (n = 2); del19 + T790M (n = 1).
T790M timing (baseline versus acquired) is unconfirmed.
del19, exon 19 deletion; NOS, not otherwise specified;
NGS, next-generation sequencing.

RESULTS

- Median Follow-up 26.8 months (18.8-36.2); **median OS in advanced EGFR-positive NSCLC 26.8 months** (18.8-36.2); Median OS was similar for Exon 19 deletion and L858R (28 months)

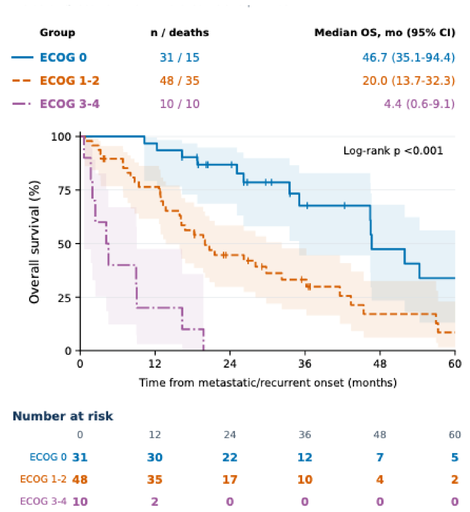


Figure 1. Overall survival by ECOG PS. Nine patients with unknown ECOG were excluded. ECOG PS was recorded at initial cancer diagnosis, or at metastatic onset in recurrent cases (N = 89)

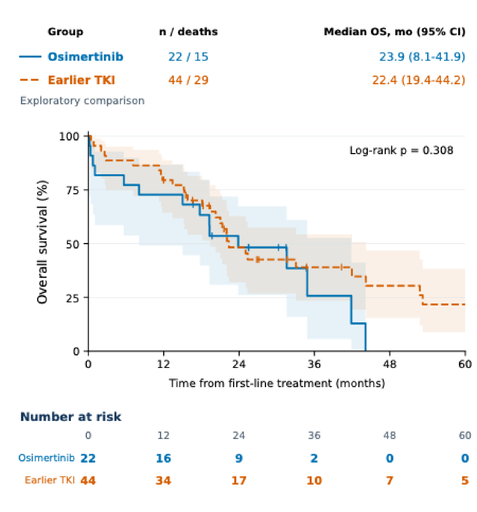


Figure 2. Overall survival by first-line anti-EGFR TKI. Only patients with single Del19 or L858R EGFR-mutation and first-line TKI monotherapy were included (N = 66)

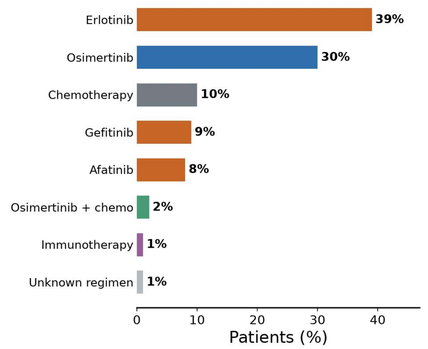


Figure 3. First-line treatment regimens in patients with advanced/recurrent EGFR-positive NSCLC. Ten patients who did not received systemic treatment were excluded (N = 100)

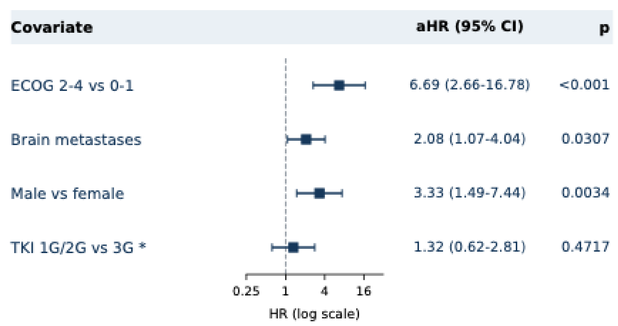


Figure 4. Multivariable Cox regression analysis of overall survival. Squares represent adjusted hazard ratios (aHRs), and horizontal bars represent 95% confidence intervals. ()1G/2G pooled vs 3G; reference: third-generation TKI. 1G/2G: erlotinib, gefitinib or afatinib; 3G: osimertinib. Includes one patient on osimertinib + chemotherapy*

CONCLUSIONS

EGFR prevalence aligns with Latin American data, with a predominance of women and patients with no smoking history. Survival was strongly associated with ECOG performance status at diagnosis, emphasizing the relevance of timely diagnosis and treatment

Keywords: EGFR-mutated NSCLC; Latin America; Real-world data · No pharmaceutical or biotech funding.

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