



P1.364: Beyond First-Line: Real-World Outcomes of Second-Line Therapy in NSCLC

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INTRODUCTION

Non-small cell lung cancer (NSCLC) remains a leading cause of cancer-related mortality worldwide.

Despite advances in first-line treatment with immunotherapy and targeted therapies, many patients experience disease progression and require second-line therapy

Real-world outcomes differ from clinical trial results due to variations in patient characteristics, performance status, comorbidities, and treatment access, highlighting the need to evaluate second-line therapies in routine clinical practice.

METHODS

Objectives :

The primary objective was to assess progression-free survival 2 (PFS-2) and overall survival (OS) among patients with NSCLC receiving second-line therapy.

Methods :

- We conducted an ambispective, single-center observational study including patients of NSCLC aged ≥ 18 years who received at least one dose of second line therapy after progression on first-line treatment between January 1, 2008 and May 31, 2025
- Treatment outcomes were obtained from lung cancer clinic databases and follow-up records. Treatment decisions were based on contemporary guidelines, multidisciplinary team recommendations, and patient preference. Tumor response was assessed using RECIST 1.1 or PERCIST criteria.
- Patients lost to follow-up were censored at their last known alive date.
- PFS-2 was defined as the time from initiation of second-line therapy to progression on subsequent treatment or death.

DISCUSSION AND CONCLUSION

In this cohort of 362 patients with NSCLC, second-line therapy provided meaningful clinical benefit, with a median OS of 31.6 months and PFS-2 of 16.3 months.

Chemotherapy was the most commonly used treatment, reflecting current practice patterns in resource-constrained settings.

Patients receiving TKIs achieved the best survival outcomes, underscoring the importance of molecular profiling and access to targeted treatments.

Immunotherapy, although lesser used, was also associated with favourable outcomes.

Adenocarcinoma histology, second-line TKI therapy, and maintenance treatment were independently associated with improved survival, while smoking predicted poorer outcomes. These findings are consistent with previous studies and highlight the need to expand access to molecular diagnostics, targeted therapies, and immunotherapy to optimize outcomes in advanced NSCLC

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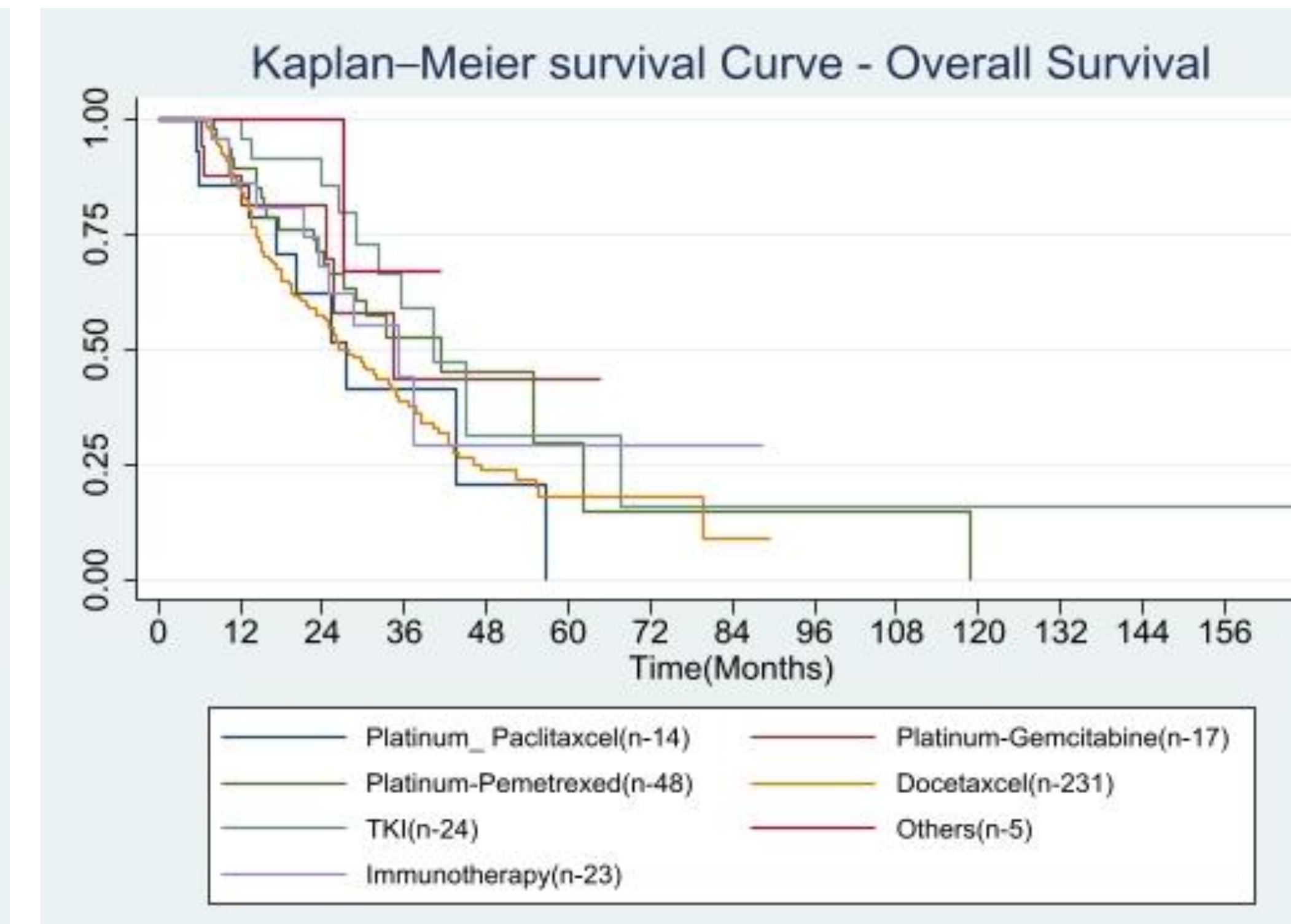
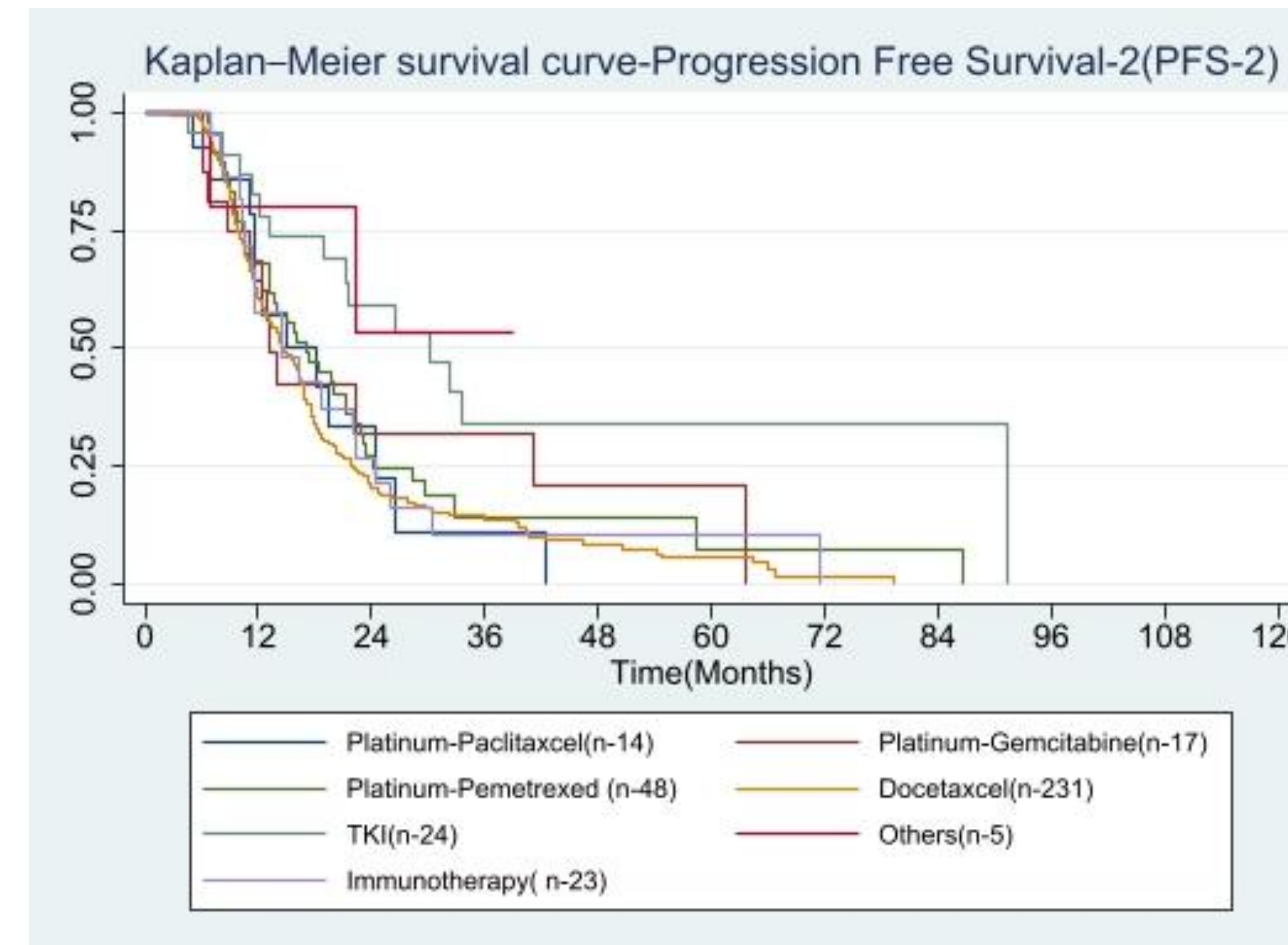
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RESULTS

- A total of 362 patients with NSCLC who had progressed on first-line treatment were included. The cohort was predominantly male with 62.70% being smokers, with a mean age of 54.8 ± 10.9 years. Most patients had a good performance status. Adenocarcinoma was the most common histological subtype (58.3%).
- Most patients were stage IV (66.3%) and 31.2% in Stage III. Most patients received second-line chemotherapy (86.4%), followed by targeted therapy (6.6%), while immunotherapy was used in 6.3%. 128 patients also received third line treatment.

Patient Characteristics	
Male	283(78.18%)
Age(Years)	54.82(+/-10.88)
Smokers	227(62.7%)
ECOG 0-1	210(58.01%)
ECOG 2-4	152(41.99%)
Adenocarcinoma	211 (58.30%)
Squamous cell Ca	110 (30.39%)
NSCLC-NOS	41(11.33%)
Stage-	
1	11(0.28%)
2	8(2.21 %)
3	113(31.22%)
4	240(66.30%)



- The median OS and PFS-2 were 31.6 months (15.5-55.4) and 16.2 months (10.4-26.2) respectively. Docetaxel was the most frequently administered regimen (63.8%), with a median OS of 26.5 months (95% CI: 14.4–45.9) and PFS-2 of 15.46 months (95% CI: 9.9–22.6). Among platinum-based regimens, platinum-pemetrexed demonstrated the most favourable outcomes, with a median OS of 41.5 months (95% CI: 22.7–62.3) and PFS-2 of 17.3 months (95% CI: 10.4–29.7).
- Targeted therapies showed superior efficacy, with TKIs achieving a median OS of 40.2 months (95% CI: 29.03–44.9) and PFS-2 of 30.1 months (95% CI: 13.3–91.4).
- Immunotherapy was associated with a median OS of 35.3 months (95% CI: 21.2–NR) and PFS-2 of 14.6 months (95% CI: 10.7–24.3).
- On multivariate analysis, adenocarcinoma histology, second-line TKI therapy, and maintenance therapy were associated with improved overall and progression-free survival, whereas smoking status was associated with worse outcomes.