EP12.07: Real-World Treatment Patterns and Outcomes After Osimertinib Progression in *EGFR*-Mutant NSCLC: A Multi-Center Taiwan Study

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INTRODUCTION

- The expanding therapeutic landscape for *EGFR*-mutated non-small cell lung cancer (NSCLC)[1] highlights the need for real-world evidence to evaluate outcomes and address unmet needs beyond osimertinib
- Taiwan presents a distinct context, as first-line osimertinib only became fully reimbursed in 2024.[1,2] Previously, National Health Insurance coverage was restricted to patients with del-19 and brain metastases,[2,3] leading many treatment-naive patients to receive first- or second-generation EGFR tyrosine kinase inhibitors (TKIs), followed by osimertinib upon acquisition of the T790M resistance mutation.[3] Of note, novel regimens preferred by NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)[4] are currently not reimbursed in Taiwan: Category 1 lazertinib plus amivantamab-vmjw as a first-line therapy, and amivantamab-vmjw plus chemotherapy after progression on osimertinib
- This study investigates **the real-world effectiveness and treatment patterns of therapies after osimertinib progression in NSCLC patients** across two major medical centers in Taiwan, aiming to provide valuable insights into real-world clinical practice

METHODS

Design

- Retrospective database analysis using records from the National Taiwan University Hospital Integrated Medical Database and the Chang Gung Memorial Hospital Research Database in Taiwan
- Patients who initiated second-line (2L) or third-line (3L) systemic anti-cancer therapy (SACT) after progressing from osimertinib between 1 January 2017 and 31 December 2021 were included

Primary endpoints

- **Treatment patterns**
- **Real-world progression-free survival (rwPFS)**
- **Real-world time to next therapy (rwTTNT)**
- **Real-world overall survival (rwOS)**

RESULTS

Patient disposition

- A total of 304 patients were enrolled, comprising **58 and 246 patients who received 2L and 3L SACT**, respectively (Figure 1)

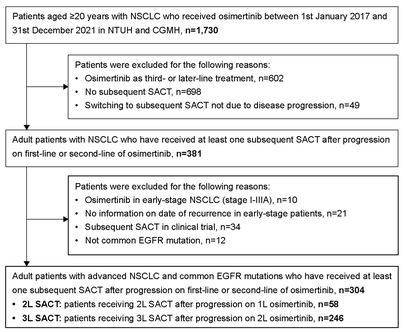


Figure 1. Study population flow diagram

1L, first-line; 2L, second-line; 3L, third-line; EGFR, epidermal growth factor receptor; CGMH, Chang Gung Memorial Hospital; NSCLC, non-small cell lung cancer; NTUH, National Taiwan University Hospital; SACT, systemic anti-cancer therapy

RESULTS

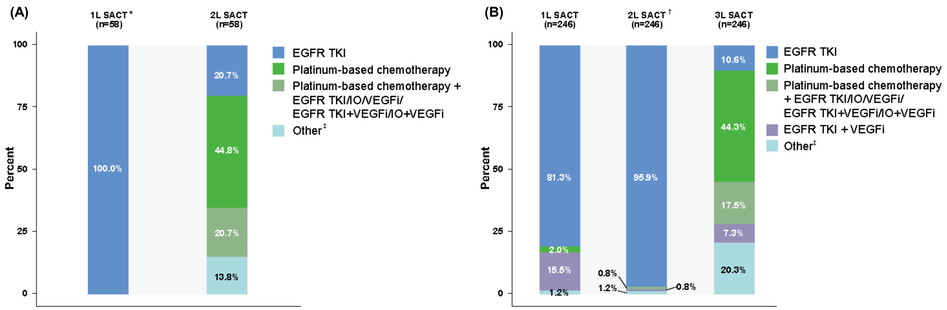
Table 1. Baseline patient and clinical characteristics

Variables	2L SACT (n=58) n	2L SACT (n=58) (%)	3L SACT (n=246) n	3L SACT (n=246) (%)
Age (years)				
Mean (SD)	64.8 (16.8)		62.0 (28.1)	
<65 years	29	(50.0)	149	(60.6)
≥65 years	29	(50.0)	97	(39.4)
Sex				
Male	21	(36.2)	85	(34.6)
Female	37	(63.8)	161	(65.4)
Smoking status				
Never smoker	38	(74.5)	190	(80.2)
Current / ever smoker	13	(25.5)	47	(19.8)
Missing	7		9	
TNM staging at initial diagnosis				
I	2	(3.4)	3	(1.3)
II	1	(1.7)	5	(2.1)
IIIA	1	(1.7)	6	(2.6)
IIIB	0	(0.0)	6	(2.6)
IV	54	(93.1)	215	(91.5)
Missing	0		11	
ECOG performance status group				
Grade 0/1	47	(92.2)	219	(93.2)
Grade 2+	4	(7.8)	16	(6.8)
Missing	7		11	

Variables	2L SACT (n=58) n	2L SACT (n=58) (%)	3L SACT (n=246) n	3L SACT (n=246) (%)
Histological classification				
Adenocarcinoma	51	(87.9)	239	(97.2)
Adenosquamous	2	(3.4)	6	(2.4)
Pleomorphic	1	(1.7)	0	(0.0)
Sarcomatoid	2	(3.4)	0	(0.0)
Other	2	(3.4)	1	(0.4)
EGFR mutations				
Exon 19 deletion	42	(72.4)	129	(52.4)
Exon 21 L858R substitution	13	(22.4)	120	(48.8)
Exon 20 T790M	8	(13.8)	135	(54.9)
Exon 18 G719X mutation	1	(1.7)	0	(0.0)
Exon 20 S768I mutation	0	(0.0)	1	(0.4)
Exon 20 insertion	0	(0.0)	17	(6.9)
Exon 19 L747P mutation	0	(0.0)	1	(0.4)
Exon 20 C797S mutation	0	(0.0)	4	(1.6)
Brain metastasis at the initial dose of post-progression SACT line	17	(29.3)	111	(45.1)
Prior local therapies				
Surgery	7	(12.1)	43	(17.5)
Radiotherapy	16	(27.6)	90	(36.6)

Percentages are derived from non-missing observations only (n).
2L, second-line; 3L, third-line; ECOG, Eastern Cooperative Oncology Group; EGFR, epidermal growth factor receptor; SACT, systemic anti-cancer therapy; TNM, tumor, node, metastasis

Figure 2. Treatment pathways



A. Patients receiving 2L SACT after progression on 1L osimertinib

B. Patients receiving 3L SACT after progression on 2L osimertinib

*All patients receiving first-line osimertinib therapy were treated with osimertinib monotherapy (100%); †All patients classified as receiving EGFR TKI therapy as 2L SACT were treated exclusively with osimertinib monotherapy. Other classifications of osimertinib as 2L SACT involved combination with additional SACT; ‡Other treatment includes non–platinum-based chemotherapy; IO monotherapy; non–EGFR TKI regimens; osimertinib + non–EGFR TKI; osimertinib + non–platinum-based chemotherapy.
1L, first-line; 2L, second-line; 3L, third-line; EGFR TKI, epidermal growth factor receptor tyrosine kinase inhibitor; IO, immuno-oncology; SACT, systemic anti-cancer therapy; VEGFi, vascular endothelial growth factor inhibitor

Table 2. SACT regimens of post-progression SACT

Variables	2L SACT (n=58) n	2L SACT (n=58) (%)	3L SACT (n=246) n	3L SACT (n=246) (%)
SACT regimens				
EGFR TKI	12	(20.7)	26	(10.6)
EGFR TKI + VEGFi	0	(0.0)	18	(7.3)
Platinum-based chemotherapy	26	(44.8)	109	(44.3)
Platinum-based chemotherapy + EGFR TKI / IO / VEGFi / EGFR TKI + VEGFi / IO + VEGFi	12	(20.7)	43	(17.5)
Other*	8	(13.8)	50	(20.3)

*Other treatment includes non–platinum-based chemotherapy; IO monotherapy; non–EGFR TKI regimens; osimertinib + non–EGFR TKI; osimertinib + non–platinum-based chemotherapy.
2L, second-line; 3L, third-line; CI, confidence interval; EGFR TKI, epidermal growth factor receptor tyrosine kinase inhibitor; IO, immuno-oncology; SACT, systemic anti-cancer therapy; VEGFi, vascular endothelial growth factor inhibitor

- Among patients who received 2L SACT (n=58), median duration on 1L osimertinib monotherapy was 7.2 months (95% CI: 3.3 to 11.2); patients who received 3L SACT (n=246) had a median duration of 2L osimertinib monotherapy of 7.4 months (95% CI: 5.85 to 8.96)
- Across 2L and 3L SACT, platinum-based chemotherapy was the most common regimen (135 patients), followed by platinum-based chemotherapy with other medications (55 patients), EGFR TKIs alone (38 patients), and EGFR TKIs plus anti-angiogenic agents (18 patients) (Table 2, Figure 2A and 2B)

Real-world outcomes

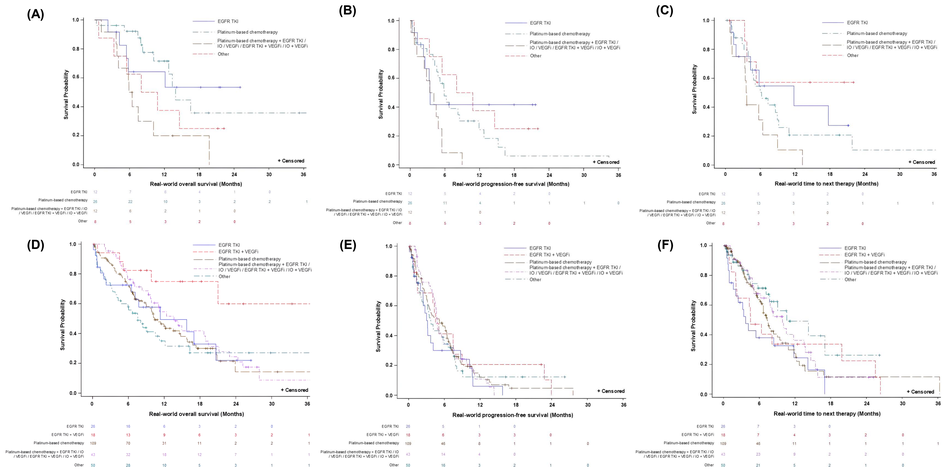
- For 2L and 3L cohorts receiving platinum-based chemotherapy, median rwPFS was 5.9 and 5.2 months, respectively; median rwTTNT was 6.2 and 7.3 months; and median rwOS was 13.9 and 10.4 months, respectively (Table 3, Figure 3A–3F)

Table 3. Real-world outcomes of post-progression SACT, median time in months (95% CI)

Post-progression SACT regimen	2L SACT (n=58) n	2L SACT (n=58) rwOS	2L SACT (n=58) rwPFS	2L SACT (n=58) rwTTNT	3L SACT (n=246) n	3L SACT (n=246) rwOS	3L SACT (n=246) rwPFS	3L SACT (n=246) rwTTNT
EGFR TKI	12	N.R.	3.4 (1.2 to N.R.)	11.8 (1.4 to N.R.)	26	11.3 (6.5 to 20.7)	3.2 (2.0 to 4.1)	3.7 (1.6 to 11.8)
EGFR TKI + VEGFi	0	–	–	–	18	N.R.	4.5 (1.3 to 9.0)	4.5 (2.0 to 19.9)
Platinum-based chemotherapy	26	13.9 (10.2 to N.R.)	5.9 (4.2 to 8.5)	6.2 (4.1 to 9.2)	109	10.4 (9.0 to 14.8)	5.2 (3.3 to 6.4)	7.3 (6.4 to 9.4)
Platinum-based chemotherapy + EGFR TKI / IO / VEGFi / EGFR TKI + VEGFi / IO + VEGFi	12	6.2 (3.7 to 10.1)	3.7 (0.7 to 5.5)	3.6 (1.0 to 6.4)	43	13.6 (9.3 to 19.4)	4.8 (4.1 to 5.8)	9.9 (6.2 to 13.5)
Other*	8	9.4 (0.7 to N.R.)	9.4 (0.7 to N.R.)	N.R.	50	7.6 (4.1 to 11.2)	3.7 (2.1 to 6.0)	10.6 (4.1 to N.R.)

*Other treatment includes non–platinum-based chemotherapy; IO monotherapy; non–EGFR TKI regimens; osimertinib + non–EGFR TKI; osimertinib + non–platinum-based chemotherapy.
CI, confidence interval; 2L, second-line; 3L, third-line; EGFR TKI, epidermal growth factor receptor tyrosine kinase inhibitor; IO, immuno-oncology; N.R., not reached; rwOS, real-world overall survival; rwPFS, real-world progression-free survival; rwTTNT, real-world time to next therapy; SACT, systemic anti-cancer therapy; VEGFi, vascular endothelial growth factor inhibitor

Figure 3. Real-world outcomes of post-progression SACT



(A) Real-world overall survival; (B) Real-world progression-free survival; (C) Real-world time to next therapy; (D) Real-world overall survival; (E) Real-world progression-free survival; (F) Real-world time to next therapy
(A)–(C) represent real-world outcomes for patients receiving 2L SACT following progression on 1L osimertinib. (D)–(F) represent real-world outcomes for patients receiving 3L SACT following progression on 2L osimertinib.
2L, second-line; 3L, third-line; EGFR TKI, epidermal growth factor receptor tyrosine kinase inhibitor; IO, immuno-oncology; SACT, systemic anti-cancer therapy; VEGFi, vascular endothelial growth factor inhibitor

DISCUSSION AND CONCLUSION

- In real-world setting, platinum-based chemotherapy was the predominant subsequent treatment after first- or second-line osimertinib
- The effectiveness of real-world subsequent treatments following osimertinib remains suboptimal, highlighting the need for novel therapies for the treatment of this patient population
- The findings support future strategies to improve first-line treatment outcomes and to manage patients after progression on osimertinib

REFERENCES, ACKNOWLEDGEMENTS & DISCLOSURES

References: 1. Wu SG, et al. J Formos Med Assoc. 2026; S0929-6646(26)00130-0 (Epub ahead of print); 2. National Health Insurance Administration, Ministry of Health and Welfare. Press release on osimertinib reimbursement, Oct 17, 2024 (in Chinese). Accessed July 2026; 3. Liao BC, et al. JCO Glob Oncol. 2024; 10: e2400125; 4. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Non-Small Cell Lung Cancer V.7.2026. © National Comprehensive Cancer Network, Inc. 2026. All rights reserved. Accessed [August 17, 2026]. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way.

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