

P3.244: Osimertinib vs. 1st/2nd-Generation EGFR-TKIs as First-Line Therapy for Non-Small Cell Lung Cancer: A Real-World Study in HK

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INTRODUCTION

- Osimertinib is a preferred first-line treatment for patients with epidermal growth factor receptor (EGFR)-mutated advanced non-small cell lung cancer (NSCLC).¹
- However, evidence on effectiveness of osimertinib versus earlier-generation EGFR-TKIs as first-line therapy for NSCLC **by baseline brain metastasis status** remains limited and inconsistent.^{2,3,4}

METHODS

Design:
Population-based cohort study

Data Source:
The Clinical Data Analysis and Reporting System (CDARS) managed by the Hong Kong Hospital Authority

Population:
Patients with advanced NSCLC who received EGFR-TKIs between 2020 and 2023 in Hong Kong.

A subcohort from a public hospital underwent detailed case review to ascertain disease progression outcome.

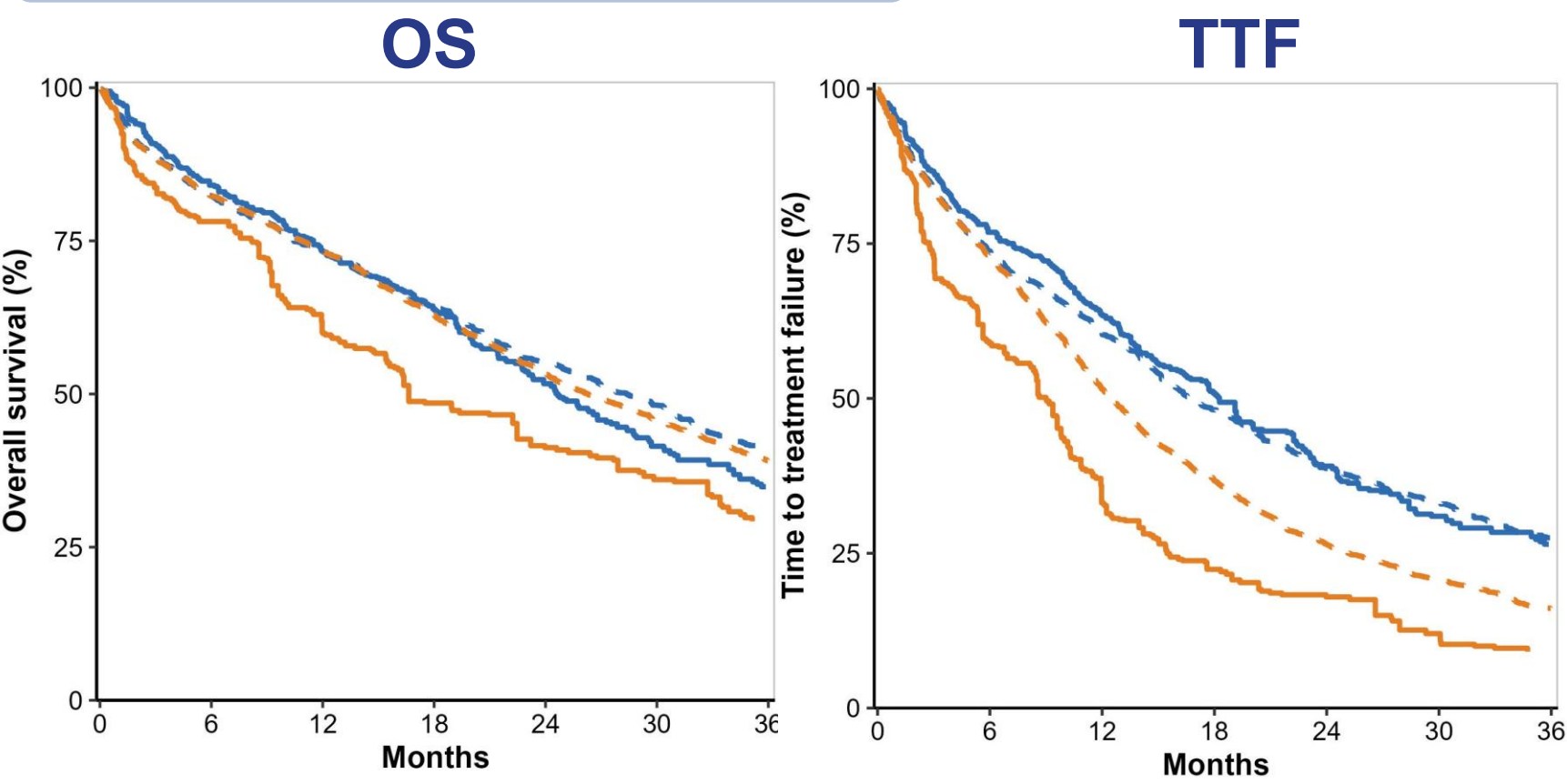
Comparison:
Osimertinib vs earlier (1st or 2nd-generation) EGFR-TKIs

CDARS	Osimertinib 1,732 (39.5%)
All patients in HK	Earlier TKIs 2,658 (60.5%)
Case review subcohort	Osimertinib 267 (44.1%)
	Earlier TKIs 339 (55.9%)

- Outcomes:**
- Full CDARS cohort: OS, TTF
 - Case review subcohort: PFS, OS, TTF

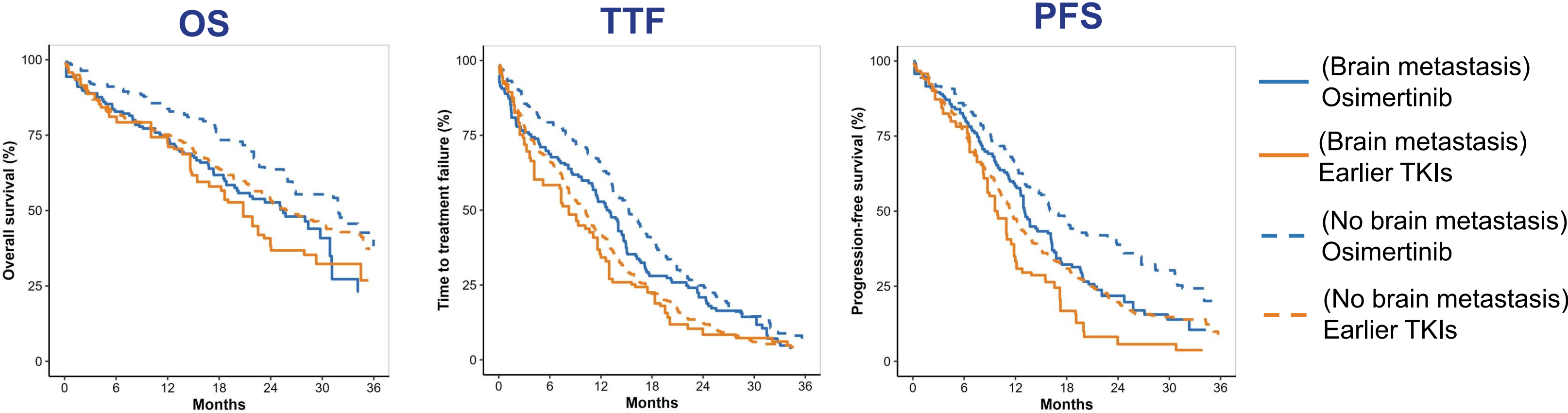
RESULTS

Full CDARS cohort



	OS (months)		TTF (months)	
	Osimertinib	Earlier TKIs	Osimertinib	Earlier TKIs
Brain metastasis	24.7 (21.9–28.8)	16.6 (12.9–27.9)	18.3 (15.3–22.2)	9.0 (6–10.9)
No brain metastasis	28.4 (25.9–30.9)	26.3 (24.6–28.3)	16.8 (15.2–19.0)	12.5 (11.9–13.2)

Case review subcohort



	OS (months)		TTF (months)		PFS (months)	
	Osimertinib	Earlier TKIs	Osimertinib	Earlier TKIs	Osimertinib	Earlier TKIs
Brain metastasis	25.1 (18.5–31.1)	20.8 (15.4–34.5)	13.0 (9.8–15.1)	7.3 (3.0–10.7)	13.2 (12.1–16.3)	10.9 (8.0–12.1)
No brain metastasis	32.4 (26.8–NA)	25.7 (23.0–32.1)	16.0 (13.4–19.5)	10.2 (8.3–11.7)	17.7 (14.2–24.7)	11.5 (10.3–13.0)

Cox regression (Full CDARS cohort)

Outcomes	HR (95% CI)
All population	
Pleural effusion	0.73 (0.61–0.88)
All-cause mortality	0.91 (0.83–1.00)
Death due to cancer	0.93 (0.83–1.03)
Death due to pulmonary infection	0.87 (0.70–1.08)
Baseline brain metastasis	
Pleural effusion	1.04 (0.51–2.13)
All-cause mortality	0.76 (0.57–1.00)
Death due to cancer	0.74 (0.54–1.01)
Death due to pulmonary infection	0.79 (0.41–1.55)
No baseline brain metastasis	
Pleural effusion	0.73 (0.61–0.88)
All-cause mortality	0.95 (0.86–1.05)
Death due to cancer	0.98 (0.87–1.09)
Death due to pulmonary infection	0.87 (0.68–1.10)

Cox regression (Case review subcohort)

Outcomes	HR (95% CI)
All population	
Pleural effusion	0.79 (0.52–1.21)
All-cause mortality	0.77 (0.60–1.00)
Death due to cancer	0.66 (0.49–0.89)
Death due to pulmonary infection	1.60 (0.93–2.78)
Baseline brain metastasis	
Pleural effusion	0.83 (0.23–2.99)
All-cause mortality	0.79 (0.50–1.25)
Death due to cancer	0.65 (0.38–1.13)
Death due to pulmonary infection	2.88 (0.93–8.94)
No baseline brain metastasis	
Pleural effusion	0.87 (0.55–1.39)
All-cause mortality	0.64 (0.47–0.89)
Death due to cancer	0.59 (0.41–0.86)
Death due to pulmonary infection	1.28 (0.65–2.53)

DISCUSSION AND CONCLUSION

Conclusion:
Osimertinib showed superior clinical benefits as first-line treatment for advanced NSCLC compared with earlier generations of EGFR-TKIs **regardless of brain metastasis status**, with longer progression free duration.

Future Direction for Research:
Studies with larger brain metastasis subgroup and more detailed progression outcomes are warranted to further confirm treatment effects.

REFERENCES & ACKNOWLEDGEMENTS

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