Poster Session 3

RWD92

Evaluation of second and third generation tyrosine kinase inhibitor as first-line therapy for non–small-cell lung cancer patients: a multi-institutional study in Taiwan.

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Background

- Afatinib and osimertinib are approval for first-line treatment of non–small-cell lung cancer (NSCLC) among the patients with epidermal growth factor receptor (EGFR) exon 19 deletion (E19del). However, real-world evidence of head-to-head comparison of these agents remains limited.
- Our study was aimed to compare osimertinib with afatinib as first-line therapy for NSCLC patients.

Methods

- **Study design**: A retrospectively cohort study.
- **Database**: A multi-institutional electronic medical records database in Taiwan.
- **Patients**: Advanced NSCLC and EGFR E19del.
- **Intervention**: Osimertinib new users between April 2020 to December 2021.
- **Comparison of intervention**: Afatinib new users between May 2018 to December 2019.
- **Follow-up**:
  - ✓ We extracted electronic medical records to confirm disease status.
  - ✓ Each patient followed up to death, loss of follow-up or maximum time of two years.
- Inverse probability of treatment weighting (IPTW) method was used to ensure two groups comparability.
- **Effectiveness outcomes:**
  - ✓ Progress-free survival (PFS)
  - ✓ Overall survival (OS)
- Time-varying Cox regression model was applied to estimate adjusted hazard ratio (aHR) between osimertinib and afatinib users.

Results

- All baseline characteristics were similar between two groups, except for age (median: afatinib 60.0 vs. osimertinib 67.0 years, P value < 0.01).

Group	Unadjusted median PFS(months)	Adjusted hazard ratio of PFS and OS
Afatinib	15	0.86(0.64-1.17)
Osimertinib	17.5	0.93(0.63-1.38)

Table 1. Baseline characteristics

	Afatinib (n = 69)	Osimertinib (n = 96)
Age, median years (range)	60.1(10.1)	67.2(10.8)
Male sex (%)	45.8%	46.4%
Metastatic status		
Brain (%)	18.8%	10.1%
Bone (%)	56.3%	46.4%
Liver (%)	19.8%	11.6%
Adrenal gland (%)	7.3%	8.7%
Lymph (%)	79.2%	76.8%
Other sites metastases (%)	76.%	71%
ECOG		
0	21.8%	14.5%
1	67.7%	63.3%
>2	10.5%	13.1%
Unknow	0%	9.1%
ALK mutation	0%	0%
MET mutation	3.1%	8.7%
HER2 mutation	0%	0%
PD-L1 expression>50%	8.3%	5.8%

Figure 1. Progress-free survival (PFS) curve

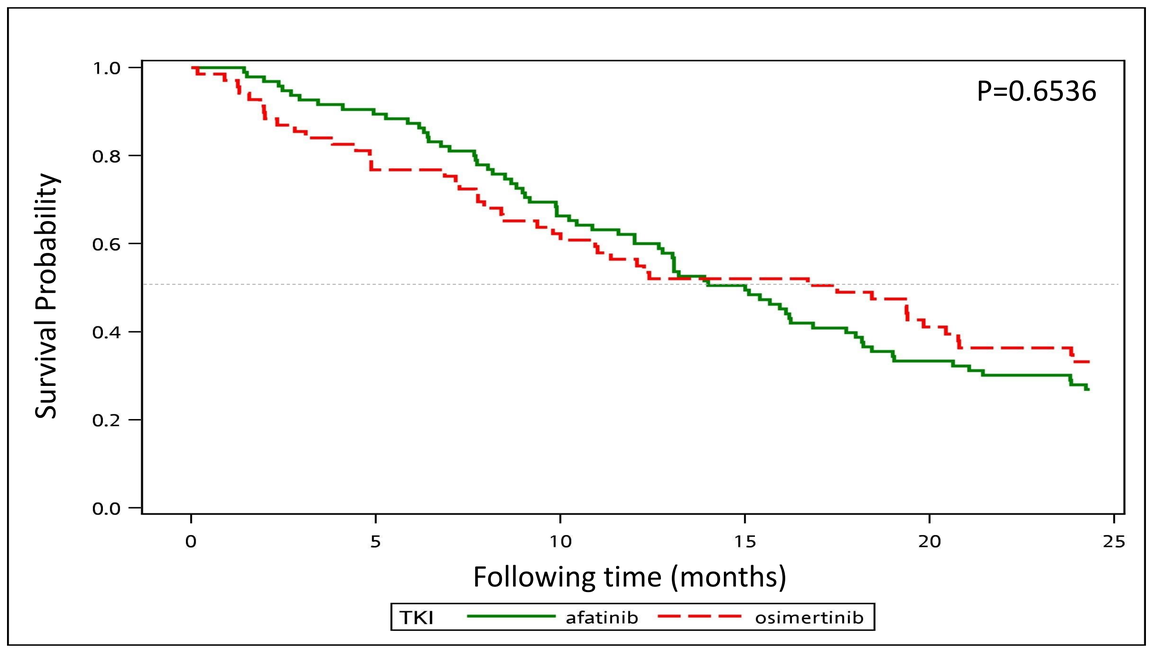
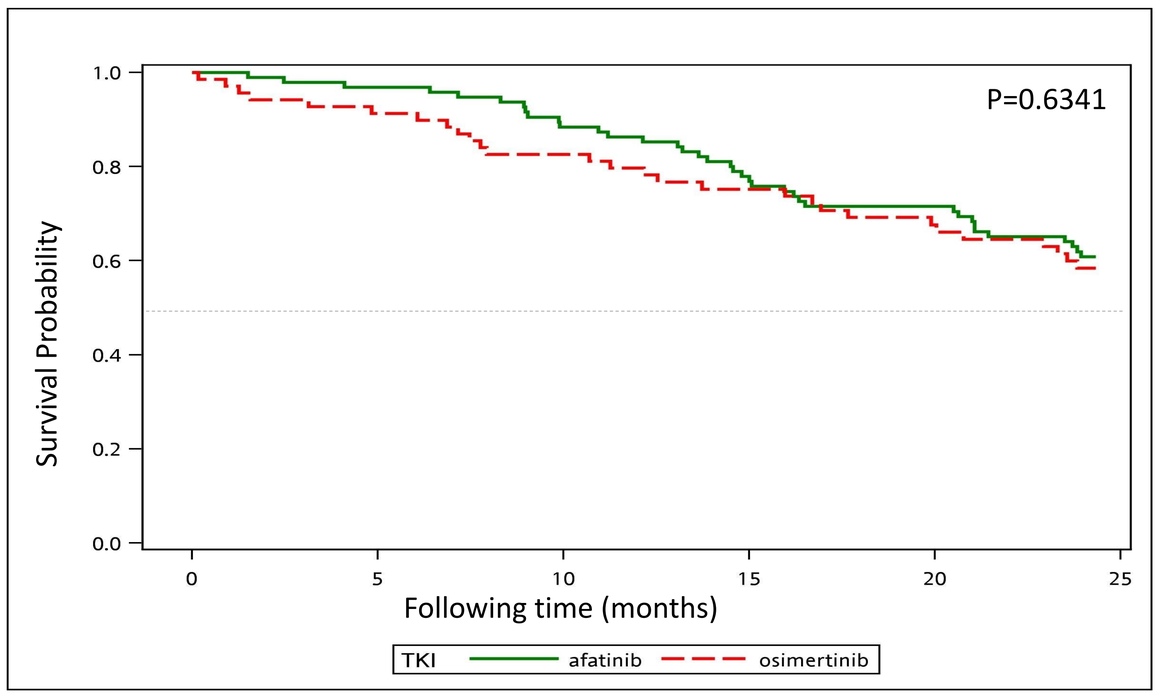


Figure 2. Overall survival (OS) curve



Conclusion

- In our real-world data, osimertinib and afatinib showed similar clinical effectiveness.
- But it still need future real-world studies with longer observation to support our research findings.