# 1180P - Treatment patterns and progression-free survival in *MET* exon 14 (*MET*ex14) skipping advanced non-small cell lung cancer (aNSCLC) in real-world clinical practice

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## CONCLUSIONS

- **This international real-world analysis – conducted prior to the approval of MET-specific TKI therapies – showed that outcomes for patients with *MET*ex14 skipping advanced NSCLC were poor across all available therapy classes and treatment lines**
- **These data support the use of approved MET-specific TKIs for optimal treatment of patients with *MET*ex14 skipping advanced NSCLC, who have a poor prognosis**

## INTRODUCTION

- *MET*ex14 skipping is an oncogenic driver, present in 3–4% of patients with advanced NSCLC[1–4]
- Since the first regulatory approvals of MET-specific TKIs in 2020, tepotinib and capmatinib have been licensed in many countries
- In the Phase II VISION study, tepotinib demonstrated robust and durable clinical activity in patients with *MET*ex14 skipping advanced NSCLC (N=313; data cut-off: Feb 20, 2022), with an ORR of 50.8% (95% CI: 45.1, 56.5), mDOR of 18.0 months (95% CI: 12.4, ne), and mPFS of 11.2 months (95% CI: 9.5, 13.8)[5]
- Given the lack of randomized studies in *MET*ex14 skipping advanced NSCLC, assessing the effectiveness of MET-TKIs relative to commonly used therapies, such as chemotherapy and immunotherapy, necessitates the exploration of alternative comparative data sources
- We pooled data from five real-world sources in patients with *MET*ex14 skipping advanced NSCLC treated prior to the approvals of MET-TKIs; here we report treatment patterns and PFS

## METHODS

- Patient-level data were available from five real-world data sources (**Table 1**)
- Patient records were imported into a common data model with aligned definitions for baseline characteristics, such as smoking history and histology, then inclusion/exclusion criteria aligned with the VISION study were applied (**Figure 1**)
- First line of therapy was defined as the first treatment received after diagnosis of advanced or metastatic disease, with subsequent lines counted accordingly
- Within each line, treatment types were categorized as: immunotherapy, chemotherapy, targeted therapy (excluding MET inhibitors) or MET inhibitors
- In datasets where progression events were not captured, TTNTD was used as a proxy for PFS; time on treatment was used when TTNTD was also not available

## METHODS (cont.)

**Table 1. Sources of real-world data**

| Data source | Description | Location | Data collection | Outcome data |
|---|---|---|---|---|
| 0015[6]* | EMR data from the US ConcertAI database | US | 2004–2018 | PFS, OS, response |
| 0035[7]* | EMR data from a multi-country chart review study | Israel, Taiwan, Netherlands, US | 2010–2018 | TTNTD, OS, response |
| COTA[6] | US COTA Healthcare EMR database | US | 2010–2019 | PFS, TTNTD, OS, response |
| GFPC[8] | Data from routine practice across multiple specialist centers | France | 2013–2020 | TTNTD, OS, response |
| Wong et al.[9] | Data from routine practice across multiple centers in a Canadian province | Canada | 2016–2019 | TTNTD, OS, response |

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**Figure 1. Eligibility criteria for inclusion of individual patients in the pooled analysis**

**Inclusion criteria**
- Age ≥18 years
- *MET*ex14 skipping advanced NSCLC

**Exclusion criteria**
- Stages I–IIIA
- Missing disease stage and advanced/metastatic disease status
- ECOG PS ≥2
- Patients treated with tepotinib

## RESULTS

### Patient characteristics

- The analysis included 248 patients, who received a total of 516 therapies (**Table 2**)
- Of these, 229 therapies were received in 1L, and 287 were received in 2L+ (**Table 3**)
- Overall, the median age was 72 years, 53% of patients were female, and 54% had smoking history

**Table 2. Patients and lines of therapy included**

| Data source | Patients included (N=248) | Lines of therapy (N=516) |
|---|---|---|
| 0015 | 21 | 42 |
| 0035 | 45 | 86 |
| COTA | 58 | 149 |
| GFPC | 91 | 190 |
| Wong et al. | 33 | 49 |

## RESULTS (cont.)

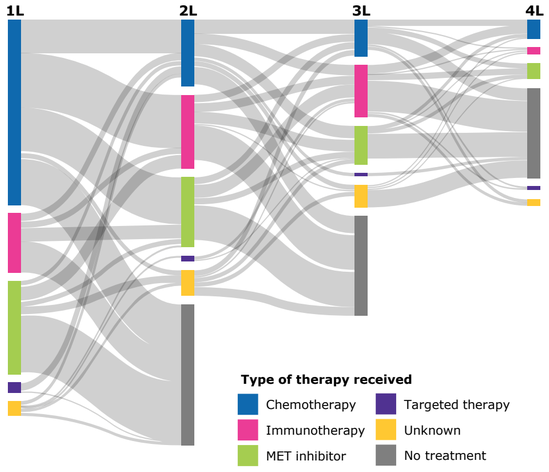
**Table 3. Patient characteristics**

| Characteristic | | Overall (N=248) | 1L (n=229) | 2L+ (n=158) |
|---|---|---|---|---|
| Lines of therapy received, n | | 516 | 229 | 287 |
| Age, median (IQR) | | 72.0 (65.0–77.4) | 72.0 (64.5–78.9) | 71.0 (65.0–76.0) |
| Sex, n (%) | Male | 242 (47) | 110 (48) | 132 (46) |
| | Female | 274 (53) | 119 (52) | 155 (54) |
| Race, n (%) | White | 203 (77) | 80 (76) | 123 (77) |
| | Asian | 46 (17) | 19 (18) | 27 (17) |
| | Black/African American | 6 (2) | 2 (2) | 4 (3) |
| | Other | 9 (3) | 4 (4) | 5 (3) |
| | N/A | 252 | 124 | 128 |
| Smoking history, n (%) | Yes | 277 (54) | 126 (55) | 151 (53) |
| | No | 239 (46) | 103 (45) | 136 (47) |
| Stage, n (%) | IIIB+ | 16 (6) | 10 (9) | 6 (4) |
| | IV | 261 (94) | 102 (91) | 159 (96) |
| | N/A | 239 | 117 | 122 |
| Histology, n (%) | Adenocarcinoma | 343 (76) | 155 (81) | 188 (73) |
| | Squamous | 51 (11) | 19 (10) | 32 (12) |
| | Sarcomatoid | 10 (2) | 5 (3) | 5 (2) |
| | Other | 46 (10) | 12 (6) | 34 (13) |
| | N/A | 66 | 38 | 28 |

### Treatment sequencing

- Of the 516 therapies received across treatment lines, the majority could be categorized as chemotherapies (204), MET inhibitors (137; over 90% were crizotinib), or immunotherapy (119; mostly pembrolizumab and nivolumab)
- In general, patients received chemotherapy as a first-line therapy (118/220 identifiable lines; nine were investigational) (**Figure 2**)

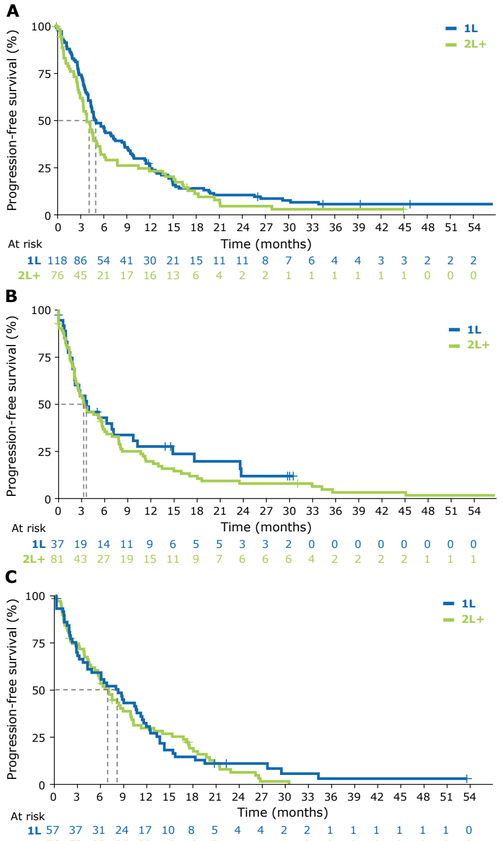
**Figure 2. Sankey plot of treatment sequencing**




### PFS according to therapy type

- Chemotherapy had an mPFS of 5.0 months (95% CI: 4.5, 7.5) in treatment-naïve patients, and 3.9 months (95% CI: 3.4, 5.2) in previously treated patients (**Figure 3A**)
- Immunotherapy had an mPFS of 3.6 months (95% CI: 2.0, 10.2) in treatment-naïve patients, and 3.3 months (95% CI: 2.5, 5.7) in previously treated patients (**Figure 3B**)
- MET inhibitors had an mPFS of 8.0 months (95% CI: 4.0, 11.1) in treatment-naïve patients, and 7.0 months (95% CI: 5.6, 9.9) in previously treated patients (**Figure 3C**)

**Figure 3. PFS according to therapy line for (A) chemotherapy, (B) immunotherapy*, and (C) MET inhibitors†**




*Immunotherapy includes immunotherapy as monotherapy and in combination with other therapies.
†MET inhibitor category was predominantly (>90%) crizotinib.

**Abbreviations:** 1L, first line; 2L, second line; 3L, 2L+, second-or-later line; 3L, third line; 4L, fourth line; CI, confidence interval; ECOG PS, Eastern Cooperative Oncology Group performance status; EMR, electronic medical record; IQR, interquartile range; mDOR, median duration of response; MET, mesenchymal–epithelial transition factor; *MET*ex14, *MET* exon 14; mPFS, median progression-free survival; N/A, not available; ne, not estimable; NIS, non-interventional study; NSCLC, non-small cell lung cancer; ORR, objective response rate; OS, overall survival; PFS, progression-free survival; TKI, tyrosine kinase inhibitor; TTNTD, time to next treatment or death.

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