Abstract #392

Real-world clinical outcomes among non-squamous advanced non-small cell lung cancer (aNSCLC) patients treated with docetaxel-based regimens post initial standard of care (SOC) in the United States

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Background

- Initial treatment with immunotherapy (IO) or targeted therapy used separately or in combination with platinum-based chemotherapy (PBC) is SOC among patients with treatment naïve aNSCLC.[1]
- Limited literature exists on treatment options and outcomes for patients who experience progression following SOC.[2]
- Our previous US-based real-world study showed that docetaxel ± ramucirumab was the most used line of treatment (LOT) post SOC.[3]
- This study characterized clinical outcomes associated with docetaxel + ramucirumab (DTX-R) or docetaxel monotherapy (DTX) among patients with non-squamous aNSCLC after discontinuing SOC therapies in the US.

Plain Language Summary

Why did we perform this research?
- Patients with non-small cell lung cancer whose cancer has spread beyond the lungs do not have good subsequent treatment options after progression on the best available treatment.

How did we complete this research?
- We used ConcertAI's database of medical records to find patients with non-small cell lung cancer and capture their next treatment after the best available treatment option and measure how well those treatments worked.

What did we discover?
- The most common subsequent treatment, used in about a quarter of all patients, after the best available treatment option was a chemotherapy called docetaxel. Two-thirds of the docetaxel treated patients received it in combination with another drug, ramucirumab. One-third received docetaxel therapy by itself.
- In half of the docetaxel treated patients, their cancer progressed after 3–4 months.
- Only half of the docetaxel treated patients lived longer than 5–6 months.

What does this mean?
- This study shows that we need to find new and better treatment options for this group of patients.

Methods

Study Design
- Retrospective, non-interventional cohort study using electronic medical record (EMR) data.

Data Source
- ConcertAI Patient360™ NSCLC EMR database (01/2018–09/2022), a large, representative de-identified oncology database of human-curated real-world data, sourced from a geographically diverse set of both academic and community oncology practices.

Eligibility Criteria
- Adult patients (≥18 years) with advanced or metastatic (Stage IIIB, IIIC, or IV) non-squamous aNSCLC diagnosis.
- Patients were required to have a qualifying LOT with IO or targeted therapy used separately or in combination with PBC.
- All patients were required to initiate a subsequent LOT (index LOT) after discontinuation of prior SOC therapies. The index date was defined as the start date of the index LOT.
- Patients were categorized into two cohorts based on receipt of docetaxel-based regimens in the index LOT: DTX-R or DTX.

Study Variables
- Patient demographic and clinical characteristics: age, sex, race, histology, site of distant metastasis, performance status, and setting of care.
- Outcomes:
  - Real-world time to discontinuation (rwTTD): from index date to index LOT discontinuation (+30 days) for any reason. Patients were censored at the end of the record if no evidence of discontinuation or no evidence of a subsequent regimen was seen.
  - Real-world time to next treatment (rwTTNT): from index date to the start of next regimen. Patients were censored at earliest of death or end of record if no evidence of next regimen was seen.
  - Real-world progression-free survival (rwPFS): from index date to earliest of progression or death. Patients were censored at earliest of end of index LOT discontinuation date (+30 days), start of post-index LOT, or end of record if no documentation of progression was seen.
  - Real-world overall survival (rwOS) for the index LOT: from index date to date of death. Patients were censored at the end of the record if no death record was seen.

Statistical Methods
- Descriptive statistics were used to evaluate patient characteristics.
- Kaplan-Meier analysis was used to estimate median rwTTD, rwTTNT, rwPFS, and rwOS.

Key Takeaways

Limited treatment options
- Docetaxel-based regimens were the most used regimens post SOC therapy among patients with non-squamous aNSCLC.

Limited clinical benefit
- Observed rwOS, rwPFS, and treatment durations on docetaxel-based regimens in this real-world setting suggested limited clinical benefit associated with these therapies.

Unmet need
- The study highlights the need for more effective treatment options among patients with non-squamous aNSCLC post SOC therapies.

Results

Most Common Index Regimens (Figure 1)
- After applying all eligibility criteria, a total of 656 patients with non-squamous aNSCLC who had discontinued prior SOC therapy were identified.
- This analysis was limited to the 165 patients with non-squamous aNSCLC (25.2%) who received a docetaxel-based regimen (n=96 [DTX-R]; n=69 [DTX]).
- Other commonly used index regimens among non-squamous aNSCLC included pembrolizumab monotherapy (11.4%, n=75), pembrolizumab + pemetrexed (8.4%, n=55), pemetrexed mono-therapy (4.4%, n=29), and pemetrexed + carboplatin (4.1% n=27).

Patient Characteristics (Table 1)
- Among patients with index DTX-R and DTX, median age was 66 and 65 years; 36.5% and 60.9% were female; mostly White (74.0% and 63.8%); received care in community settings (86.5% and 75.4%); 44.8% and 43.5% had at least 1 comorbid condition; and the median number of pre-index LOTs was 1 and 2, respectively.
- Median time from index date to end of follow-up was 10 months for patients receiving DTX-R and 11 months for those receiving DTX.
- Approximately 15.1% and 31.8% had brain metastasis; 63.5% and 65.2% had ECOG 0-1 among patients with index DTX-R and DTX, respectively.
- The most common actionable genomic alteration was *EGFR*: 6.3% of patients who received DTX-R tested positive, compared to 11.6% of patients who received DTX.

Outcomes
- Median rwOS, rwPFS, rwTTD, and rwTTNT for the index LOT are reported in **Figure 2**.

Limitations

- There are limitations inherent to a retrospective study such as missing data and potential misclassification, and findings should be interpreted with caution.

References

1. Leal T, et al. *Expert Rev of Anticancer Ther* 2023; 23(8):817-833.
2. Girard N, et al. *ESMO Open* 2024; 9(Supp 3):102638.
3. Shah R, et al. *JCO Oncol Pract* 2023; 19(Supp 11):534.

Acknowledgments

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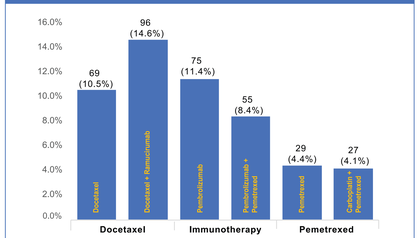
Figure 1. Most Common Post SOC Regimens



The remaining patients (n=305) received 91 unique regimens with each regimen accounting for less than 3% of all patients. Broadly, these regimens were platinum-based and non-platinum based chemotherapies, immunotherapies, and/or targeted therapies either used alone or in combination with each other. The figure above presents only the top 6 most commonly used regimens across all patients.

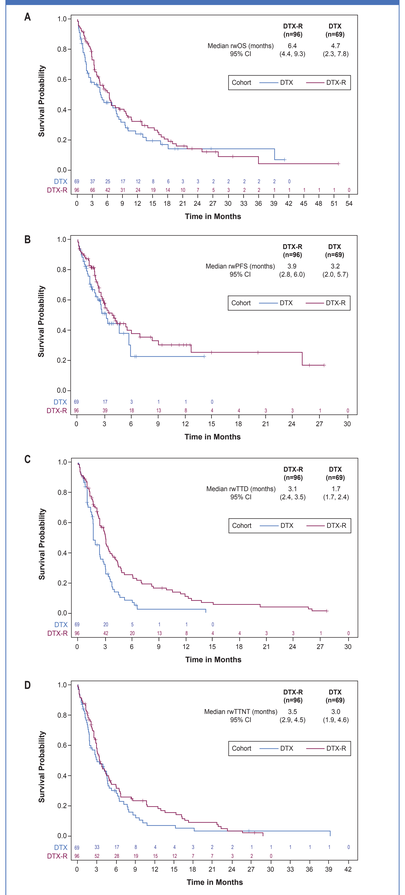
SOC: standard of care

Table 1. Patient Characteristics

Variables	DTX-R N=96	DTX N=69
Age (years) at index date		
Mean (SD)	65.2 (8.95)	65.2 (9.80)
Median	66	65
Gender, n (%)		
Female	35 (36.5)	42 (60.9)
Male	61 (63.5)	27 (39.1)
Race, n (%)		
White	71 (74.0)	44 (63.8)
Black or African American	16 (16.7)	14 (20.3)
Asian	3 (3.1)	5 (7.2)
Other/Undocumented	6 (6.3)	6 (8.7)
Setting of care at initial diagnosis, n (%)		
Academic setting	13 (13.5)	17 (24.6)
Community setting	83 (86.5)	52 (75.4)
Any comorbid condition, n (%)	43 (44.8)	30 (43.5)
ECOG performance status at index date (±30 days), n (%)		
0-1	61 (63.6%)	45 (65.2%)
2+	8 (8.3%)	7 (10.1%)
Undocumented	27 (28.1%)	17 (24.6%)
Site of distant metastasis (three most common)		
Bone	41 (44.1%)	26 (39.4%)
Lung	25 (26.9%)	20 (30.3%)
Brain	14 (15.1%)	21 (31.8%)
Patients with AGA, n (%)	9 (9.4%)	14 (20.3%)
Patients without AGA, n (%)	87 (90.6%)	55 (79.7%)
Tested positive for *EGFR*, n (%)	6 (6.3%)	8 (11.6%)
Median number of pre-index lines of therapy	1	2
Median time from index date to end of follow-up, months	10	11

DTX-R: Patients who received docetaxel + ramucirumab as index LOT
DTX: Patients who received docetaxel monotherapy as index LOT
AGAs of interest: *ALK, BRAF, EGFR, MET, NTRK, RET, KRAS, HER2, and/or ROS1*.
Patients with AGA: patients who tested positive for at least one of the AGAs of interest
Patients without AGA: patients who tested negative for the AGAs of interest
AGA: actionable genetic alteration; ECOG: Eastern Cooperative Oncology Group; LOT: line of treatment, SD: standard deviation

Figure 2. Kaplan-Meier Analysis from Start of Index LOT



DTX-R: Patients who received docetaxel + ramucirumab as index LOT
DTX: Patients who received docetaxel monotherapy as index LOT
CI: confidence interval, LOT: line of treatment, rwOS: real-world overall survival, rwPFS: real-world progression-free survival, rwTTD: real-world time to discontinuation, rwTTNT: real-world time to next treatment

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