Impact of Antiemetic Strategy on Overall Survival in Patients with Metastatic HER2+ Breast Cancer Treated with Trastuzumab Deruxtecan: A Real-World Retrospective Study

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Introduction

- Trastuzumab deruxtecan (T-DXd) significantly improves progression-free and overall survival in metastatic HER2-positive breast cancer.
- However, it is associated with high rates of nausea and vomiting, which can impair quality of life and lead to early treatment discontinuation.
- Antiemetic guidelines recommend combination prophylaxis for moderately to highly emetogenic regimens, but little real-world evidence links antiemetic strategy to survival outcomes.
- We evaluated whether antiemetic regimen choice affects treatment persistence and survival in real-world practice.

Methods and Materials

We conducted a retrospective cohort study using the **Integra PrecisionQ** de-identified electronic health record database, which includes more than 3 million cancer patients across more than 500 care sites.

The study population consisted of 540 patients with metastatic HER2+ breast cancer who initiated T-DXd between December 20, 2019 and October 31, 2024. Patients were stratified into:

- **Group 1:** HT3 receptor antagonist + dexamethasone (n=251)
- **Group 2:** NK1 receptor antagonist + 5HT3 receptor antagonist + dexamethasone (n=289)

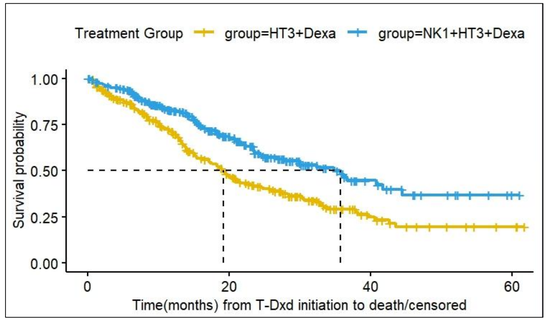
Outcomes measured from T-DXd initiation included:
- Real-world overall survival (OS)
- Time to treatment discontinuation or death (TTD)

We performed Kaplan–Meier analyses to estimate OS and TTD for each group and compared survival curves using log-rank tests. We then built multivariable Cox proportional hazards models, adjusting for age, race, ECOG performance status, and line of therapy, to calculate hazard ratios with 95% confidence intervals.

Results

- Baseline demographics were balanced between groups. Median age at diagnosis was 54 years for Group 1 and 55 years for Group 2; median age at T-DXd initiation was 61 years for Group 1 and 62 years for Group 2. Both groups were mostly White (60.2% in Group 1 and 66.4% in Group 2).

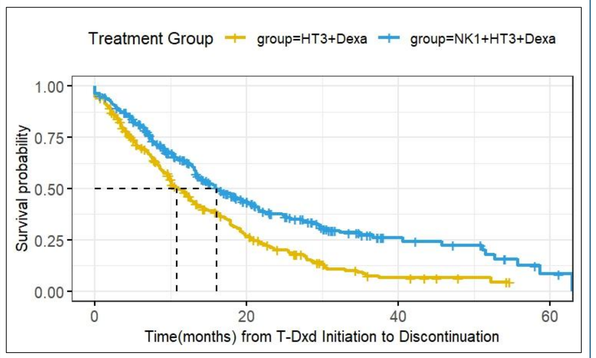
Overall Survival (OS)



- A significant difference in overall survival was observed (log-rank p<0.001) between patients who received NK1+HT3+Dexa and those treated with HT3+Dexa.
- The median survival was 35.7 months in the NK1 group vs. 19.2 months in the comparator, representing a 16.5-month improvement.
- Median follow-up was 16.6 months for the NK1 group and 13.9 months for the comparator.
- In the multivariable Cox model, adjusting for age, race, ECOG performance status, and T-DXd line of therapy, use of NK1 was associated with a 40% lower risk of death (HR=0.60, 95% CI=0.45-0.80).
- Among covariates, higher ECOG scores were associated with worse survival, whereas age, race, and T-DXd line were not significant predictors of survival outcomes.

Results (*continued*)

Time to Treatment Discontinuation or Death (TTD)



- Median time to discontinuation was significantly longer among patients receiving NK1+HT3+Dexa compared with those on HT3+Dexa alone (16 vs. 11 months, log-rank p<0.001).
- A multivariate Cox proportional hazards model was developed to evaluate the impact of antiemetic regimen on TTD, adjusting for age, race, ECOG performance status, and T-DXd line of therapy.
- NK1 addition was independently associated with a 33% lower risk of treatment discontinuation or death (HR=0.67; 95% CI=0.53-0.84; p<0.001).
- ECOG performance status was a strong predictor of early discontinuation.
  - Patients with ECOG 4 had more than a 3-fold higher risk of discontinuation compared with ECOG 0 (HR=3.11; 95% CI=1.12-8.67; p=0.03).
- Receiving T-DXd in a later line of therapy was associated with a 7% higher risk of treatment discontinuation (HR=1.07; 95% CI=1.02-1.13, p=0.006).

Discussion

- These findings add to the growing evidence that supportive care quality directly influences therapeutic success. While the antiemetic benefits of NK1 receptor antagonists are well established in conventional chemotherapy, their role in antibody-drug-conjugate therapy has been largely unexplored.
- The observed benefit likely reflects more effective control of chemotherapy-induced nausea and vomiting (CINV), which allows patients to tolerate therapy longer, maintain dose intensity, and avoid premature discontinuation. These results align with prior studies in other emetogenic settings demonstrating that adequate CINV prevention supports adherence, patient comfort, and long-term treatment benefit.
- Although this was a retrospective analysis and cannot establish causality, the strength and consistency of the association across both time to discontinuation and overall survival support a plausible clinical link between effective symptom management and improved treatment outcomes. Further validation in prospective studies is warranted to confirm these finding and clarify underlying mechanisms.

Conclusions

- In this real-world cohort, use of an NK1-containing antiemetic regimen with T-DXd was associated with prolonged treatment duration and improved survival, suggesting that optimized supportive care may contribute meaningfully to treatment success.
- The impact of ECOG performance status and treatment line highlights the importance of initiating T-DXd earlier, when patients have better functional reserve, and pairing it with proactive supportive care. Together optimal timing and comprehensive CINV prevention may help sustain therapy and translate into improved real-world effectiveness and survival.

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References

1. Modi S, et al. Trastuzumab deruxtecan in previously treated HER2-positive breast cancer. N Engl J Med. 2020;382(7):610–621.
2. Cortés J, et al. Trastuzumab deruxtecan versus trastuzumab emtansine in HER2-positive metastatic breast cancer. N Engl J Med. 2022;387(1):9–20.
3. Swain SM, et al. Incidence and management of gastrointestinal side effects with trastuzumab deruxtecan. Oncologist. 2021;26(3):e535–e544.
4. National Comprehensive Cancer Network (NCCN). Antiemesis (Version 2.2024).
5. Hesketh PJ, et al. Antiemetics: ASCO guideline update. J Clin Oncol. 2020;38(24):2782–2797.

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