

Medically Integrated Specialty Pharmacy Optimization of Adherence and Persistence for Renal Cell Carcinoma Tyrosine Kinase Inhibitors



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Background

Kidney and renal pelvis cancer represent 4.1% of all new cancer cases in the U.S.¹

The development and advancements of oral targeted therapy has transformed the landscape of cancer treatment. One challenge of oral therapy is ensuring medications are taken as prescribed in order to derive the intended clinical benefit.^{2,3}

Poor adherence to oral regimens has been reported in the literature and has been shown to be associated with suboptimal patient outcomes and increases in healthcare resources and costs.^{3,4,5}

Adherence and persistence data from prescription dispensing and refill patterns are important to healthcare providers, systems, and payers to assess and/or maximize the therapeutic goal(s) of anticancer treatment.³

The American Oncology Network (AON) is an alliance of over 250 physicians and seasoned healthcare leaders across 21 states. AON pharmacy is a medically integrated pharmacy that partners with providers to encompass a holistic approach to maximizing patient care by reinforcing adherence.

Objectives

Primary Objective: Utilize pharmacy dispensing and refill data to explore adherence and persistence to oral renal cell carcinoma (RCC) tyrosine kinase inhibitors (TKIs) within a medically integrated specialty pharmacy utilizing a fixed and variable method.

Secondary Objective: Describe patient education and monitoring practices within the AON specialty pharmacy.

Methods

Patient Population

Eligible patients were at least 18 years of age, with a prescription dispensed for a TKI approved in the first line setting (cabozantinib, axitinib, lenvatinib) with advanced RCC and at least 3 fills from August 16, 2019 through November 16, 2023. Patients with any activity within the first 3 months of the dataset were excluded to help identify patients newly starting therapy.

Outcome Measures

- Proportion of days covered (PDC)**
 - Defined as the ratio of the days "covered" by the patient on the therapy to the length of the follow-up period
 - Variable
 - Fixed at 6 months
- Medication possession ratio (MPR)**
 - Defined as the ratio of patient's total days' supply on the therapy to the length of the follow-up period
 - Variable
 - Fixed at 6 months
- Persistence**
 - Assessed via Kaplan-Meier
 - Defined as no gap in therapy greater than 1.5x days' supply
 - Gaps greater than 1.5x days' supply are considered another episode
- Time to d/c**
 - Number of days that exist until a gap of 90 days or more is observed in medication refills

Results

Data Summary

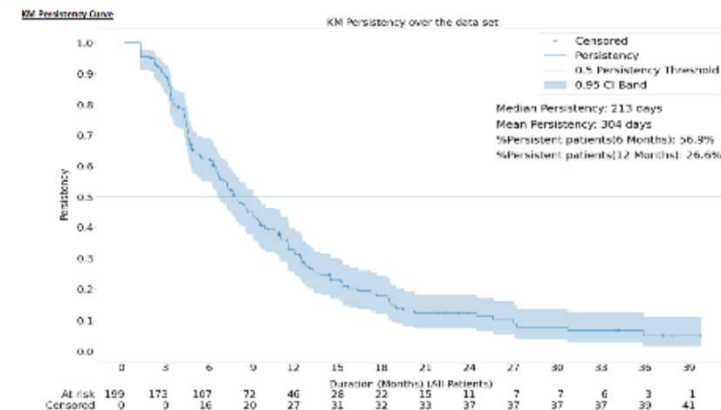
Data Summary for All Patients	
Data Start	Aug 16, 2019
Data End	Nov 16, 2023
Sample Size	199
Number of Prescriptions	1988
Number of Episodes* (Episodes/Patient)	277 (1.4)
Mean TKI Fills	10

Data Summary for Discontinued Patients

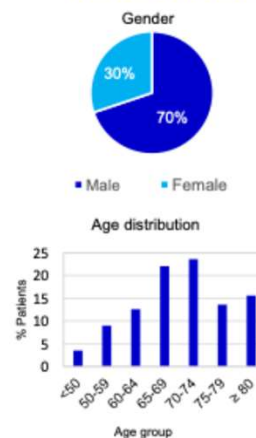
Number of Discontinued Patients	137
Mean Time to Discontinuation	270 days
Median Time to Discontinuation	207 days

*Episode of therapy: When consecutive prescriptions for a patient have a gap less than the grace period (1.5x days' supply), then the combination of all prescriptions is considered an episode.

Persistence



Patient Demographics



Results

Adherence

MPR	Variable	6 Month Fixed
N = 199		
Median MPR (%)	92.3	83.3
Mean MPR (%)	85.6	79.7

PDC	Variable	6 Month Fixed
Median PDC (%)	87.3	80
Mean PDC (%)	80.5	74.4

Discussion

AON Pharmacy assists in obtaining insurance authorizations and financial assistance (where applicable) to remove the financial toxicity barriers to starting therapy.

Having access to the patient's electronic health record allows the clinical team to evaluate patient notes, labs, next appointments, etc., to ensure that continuation of therapy is appropriate at the right time and right dose, making interventions where applicable.

Pharmacy technicians proactively contact the patient on average 7-10 days before a patient is due for a refill to schedule their drug delivery to minimize the incidence of gaps in treatment. When speaking to the patient, AON pharmacy technicians are ascertaining and documenting missed doses, adverse events, updating medication lists, and forwarding the information to the clinical pharmacist team for educational/counseling outreach or intervention with the provider when appropriate.

With a 5-year survival rate in advanced stage renal cancer of 18.2%¹ optimizing compliance to therapy is crucial to maximize the effectiveness of TKI therapy.

In this analysis, we utilized various methods to measure adherence including fixed and variable PDC and MPR. Our methods were based on recommendations from the ASHP section of Specialty Pharmacy Practitioners to calculate adherence and persistence in specialty pharmacies.⁶ Our results are in alignment with their recommendation that a variable measure of adherence may provide a better and more accurate method to avoid limitations of fixed measures in specialty pharmacy practices.

Limitations

There are important factors to consider when examining persistence, which may not be collected as part of this analysis, including but not limited to: patient, disease, and treatment characteristics. There is a potential for misclassification of "start date" if a patient started their treatment elsewhere. The proposed metrics calculated in this analysis measure acquisition and not consumption of medication. In addition, patients may be misclassified as being on 1L therapy.

Acknowledgements

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