Insights into Patients with Prostate Cancers Using Matched Real World Data Sources

Academy of Managed Care Pharmacy Meeting (AMCP 2022), Chicago, IL, March 29-April 1, 2022

Insights into patients with prostate cancers

BACKGROUND

- In collaboration between the National Cancer Institute's (NCI) Surveillance, Epidemiology and End Results (SEER) Program, Emory University, and Walgreens Co, a database was created with matched Georgia SEER Cancer Registry data (January 2000—December 2018), hospitalization data, and prescription data at the patient level. Patients had to be in both the Georgia Cancer Registry and Walgreens Co dataset to be included.
- Prescription fields included sold antineoplastic medications (January 2013-December 2018) from community specialty pharmacies, and hospitalizations were from facility discharge records within the state of Georgia (GA) (November 2011--December 2018).

OBJECTIVES

- We utilized this real-world data source to describe case characteristics and assess patterns of oncology treatments for first and only primary prostate cancer cases in the Walgreens patient population from GA.

METHODS

- In this retrospective cross-sectional study, only oral antineoplastic therapies were included, and only inpatient discharge events post index antineoplastic therapy were included. We examined cases characteristics at the time of cancer diagnosis and assessed antineoplastic drug classes from pharmacy, registry radiation or surgery indications at time of diagnosis, and hospitalization or ER events from discharges, and indicated deaths from registry or discharges.

RESULTS

- Matched data for 1,391 prostate cancers, had 75.3% as first and only primaries, and the remaining (24.7%) as multiple or recurring cancers (see Figure 1.). Final study sample was 1,030 single primary prostate cases. Medications.
- Of the 1,030 single primary cases meeting observation criteria for antineoplastics, mean age at diagnosis was 66.6 years, with the largest minority group being African Americans (42.8%) having the lowest mean diagnosis age (65.2 years) (see Table 1.).

Figure 1: Sample Selection Criteria

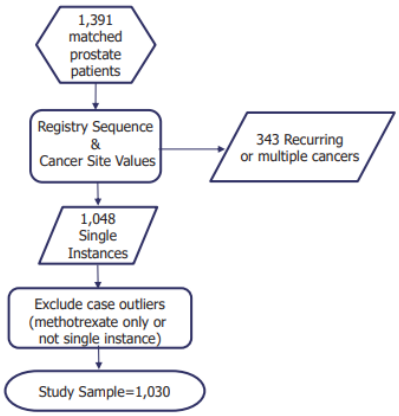
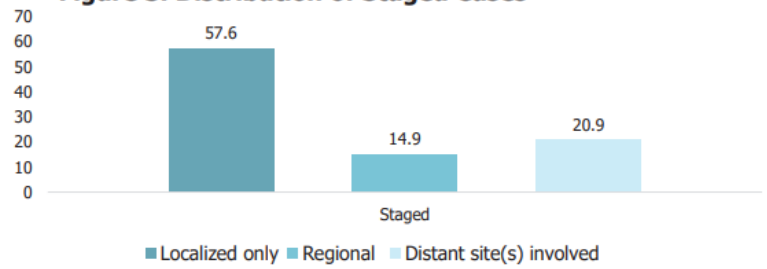


Table 1. Mean Diagnosis Age and Death Rates per SEER Racial Categories

Background	Patient Count	Mean Years	Deaths	Category Rate
White	573	67.6	220	38.6%
African American	441	65.2	167	37.9%
Am. Indian-Alaskan Native	3	68.3	2	66.7%
Asian Pacific	9	72.9	3	33.3%
Unknown	4	73.0	1	25.0%

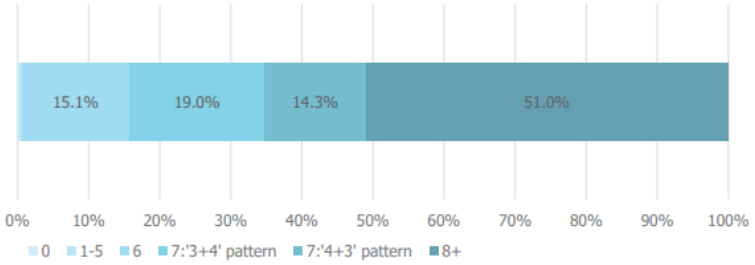
- Staging on 933 patients revealed 57.6% had localized diagnosis, 14.9% had regional involvements, and 20.9% had distant sites (see Figure 3.)

Figure 3. Distribution of Staged Cases



- Gleason levels were relatively high, with 620 having scores above 6 (84.3%) as indicated in Figure 4. reporting the percentages across Gleason indications.

Figure 4. Distribution of Gleason Scores (n=736)



- In Table 2. 90.7% were on hormones with the most utilizing antiandrogens class (74.9%).

Table 2. Drug Class Distribution of Oral Antineoplastic Utilized

Medication Class	Fill Count	Fill %	Index Fill Count	Patient %
Androgen Biosynthesis Inhibitor	818	12.8%	125	12.1%
Antiandrogens	4,143	64.9%	772	75.0%
Antiestrogens	8	0.1%	3	0.3%
Antimetabolites	1,042	16.3%	77	7.5%
Tyrosine Kinase Inhibitor	4	0.1%	1	0.1%
mTOR Kinase Inhibitor	4	0.1%	2	0.2%
Antineoplastics Misc.	94	1.5%	10	1.0%
Aromatase Inhibitors	160	2.5%	24	2.3%
LHRH Analogs	67	1.0%	10	1.0%
Mitotic Inhibitors	29	0.5%	4	0.4%
Nitrogen Mustards	14	0.2%	2	0.2%

- In addition to the above antineoplastics, other therapies included radiation (384 patients), surgery (288 patients), or both (47 patients) (see Table 3).
- Overall, 55% of sample had additional therapies to antineoplastics (not shown)

Table 3. Crosstabulation between Radiology and Surgery Types

Radiology	No Surgery	Prostatectomy	TURP	Unknown
Unknown n=26	1.7%	0.8%	0.1%	0.5%
Yes n=384	32.7%	3.0%	1.6%	0%
No n=523	34.0%	13.4%	3.3%	0.1%
n=933	699	177	51	26

- Hospitalizations for 206 patients indicated mean of 1.6 events and 2.4 days of stay, and ER visits for 364 and had a mean of 2.4 ER events. Finally, during observation time, there were 393 (38.2%) deaths (see Table 1.).

DISCUSSION/CONCLUSIONS

- For single instance prostate cancers within the state of GA, antiandrogens were the most utilized antineoplastic, but antineoplastics were not the sole treatment for 55% of patients. As of 2018, this sample tended to experience multiple therapeutic interventions as well as ER and hospitalizations, which is not surprising given the severity of stage, Gleason scores, and death rates.
- Combining registry, hospital, and pharmacy data sources can identify practical insights to improving oncology care. Pharmacy programs managing oncology patients should include screening for risk factors associated with adverse outcomes to help manage cancer care.

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