Real-World US Optum Claims Database Study of Pre- and Post-Relapse Costs and Health Care Resource Utilization in Patients With High-Risk Localized or Locally Advanced Prostate Cancer Who Relapsed

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Key Takeaway

Taken together with evidence that patients with HR-LPC/LAPC who progress to a different disease state have poor prognosis, our findings demonstrate that effective treatment options introduced early in the disease may not only delay disease relapse but also reduce the high economic burden these patients incur

Conclusions

Patients receiving RP incurred higher costs pre-relapse whereas patients receiving RT incurred higher costs post-relapse

Costs and HCRU were higher among patients starting RT

Persistent unmet need for new and more effective treatments to reduce economic burden for individuals with HR-LPC/LAPC justifies the need for clinical trials

Introduction

- Approximately 300,000 new cases of prostate cancer (PC) and 35,000 deaths from the disease are estimated in the US in 2024[1]
- Patients with localized and locally advanced PC who are at high risk of relapse (HR-LPC/LAPC) account for approximately 15% to 22% of newly diagnosed PC cases[2,3]
- Recommended treatment options for HR-LPC/LAPC include radical prostatectomy (RP) or radiotherapy (RT) plus androgen deprivation therapy (ADT) with curative intent.[4] However, >50% of patients show disease progression and/or metastasis within 5 years after RP/RT[5-7]
- Disease relapse after HR-LPC/LAPC may result in high economic burden, which requires evaluation

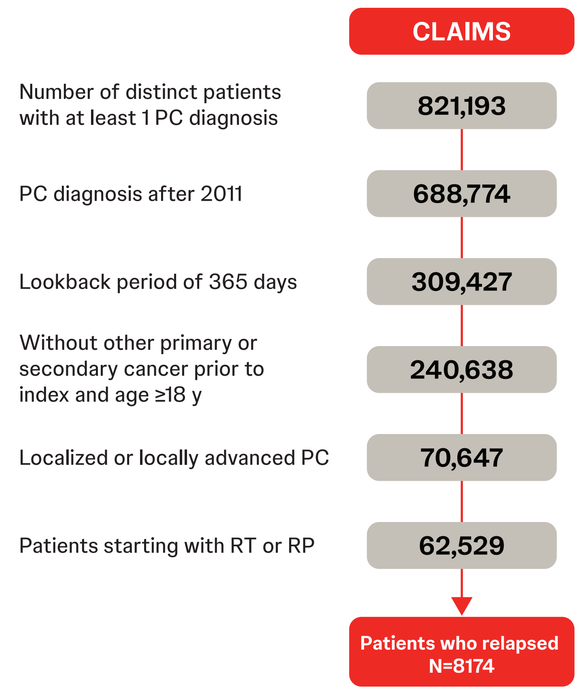
Objective

- The objective of this study is to assess pre- and post-relapse health care resource utilization (HCRU) and costs related to treatment of HR-LPC/LAPC in the US

Methods

- The US Optum Claims database was retrospectively searched from 2011 to 2022 for patients with HR-LPC/LAPC who relapsed with the 1-year lookback period. Patient flow in the study is shown in Figure 1
- HR-LPC/LAPC was defined as receiving ADT, RP, or RT before relapse to nonmetastatic/metastatic castration-resistant PC, or metastatic castration-sensitive PC and <180 days from PC diagnosis
- HCRU included mean number of outpatient or laboratory visits for patients with ≥1 visit and mean aggregated length of hospital stay for those with ≥1 hospitalization
- Total direct costs were assessed and expressed in US dollars and adjusted for Consumer Price Index in 2022
- HCRU and costs were analyzed pre-relapse (from ADT/RP/RT start to relapse) and post-relapse (from relapse to loss to follow-up/death) per-patient/per-month unadjusted or adjusted for patient characteristics
- Costs were also analyzed with censoring by Bang and Tsiatis's (BT) or complete case (CC) estimators or without censoring by available sample (AS) estimator

Figure 1: Patient selection process in the Optum Claims database



Results

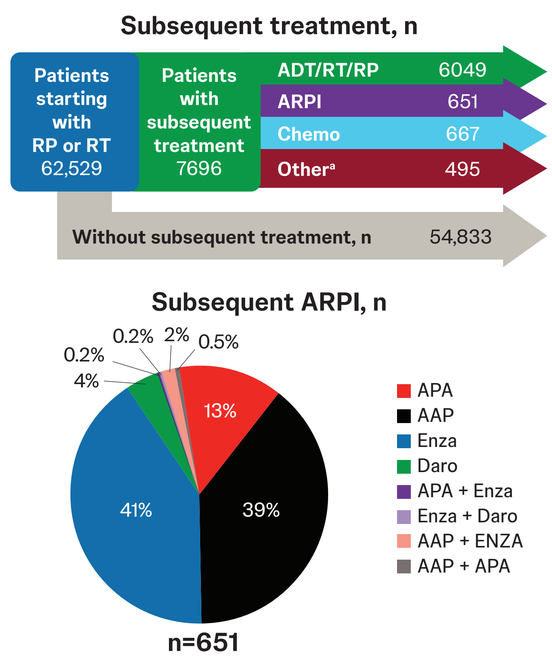
Patient characteristics

- Among 62,529 patients with HR-LPC/LAPC who started RP or RT, 8174 relapsed (4938 post-RP, 3236 post-RT) and were included in the analysis
- Median age of patients who relapsed was 67 years for patients who started with RP and 73 years for those who started with RT (see Supplemental material)
- Median follow-up was 2.7 years
- Approximately 1600 patients had >10 years follow-up

Treatment sequence

- A total of 7696 patients received subsequent treatment (Figure 2)
- The most common subsequent treatment in databases was ADT, RT, or RP, alone or in combination. Among subsequent treatments, 99% were ADT and/or RT, 5% were androgen receptor pathway inhibitors (ARPIs), and 8% were chemotherapy
- The most common subsequent therapies among the ARPIs were enzalutamide (Enza), abiraterone acetate + prednisone (AAP), and apalutamide (APA) (Figure 2)

Figure 2: Treatment sequence from primary to subsequent treatments among patients who progressed



Daro, darolutamide.
[a]Bicalutamide, nilutamide, radium-223 dichloride, pembrolizumab, flutamide, sipuleucel, and olaparib.

Unadjusted costs

- Patients receiving RP incur higher cost pre-relapse versus post-relapse (US$3913 vs US$3754), whereas patients receiving RT incur higher costs post-relapse ($4347 for pre- and $5238 post-relapse) (Table 1)
- Total, pharmacy, and total medical costs were higher among patients starting RT
- Total costs pre-relapse excluding surgery in the RP group were $2389

Adjusted costs

- Costs adjusted for patient characteristics followed the same pattern as unadjusted costs
- Total costs were:
  - For patients starting with RP, $3982 pre-relapse and $3772 post-relapse
  - For patients starting with RT, $4467 pre-relapse and $5343 post-relapse
- Total medical costs were:
  - For patients starting with RP, $3748 pre-relapse and $3014 post-relapse
  - For patients starting with RT, $4127 pre-relapse and $3921 post-relapse

Post-relapse costs including censoring

- Costs associated with RP and RT were higher when analyzed with censoring (BT and CC) versus without (AS):
  - For patients starting with RP, costs were $9302 (BT) and $7751 (CC) versus $3752 (AS)
  - For patients starting with RT, costs were $9685 (BT) and $7121 (CC) versus $5239 (AS)
- Additional details on censoring analysis can be found in the Supplemental materials

Table 1: Unadjusted costs pre- and post-relapse in patients who started with RP or RT

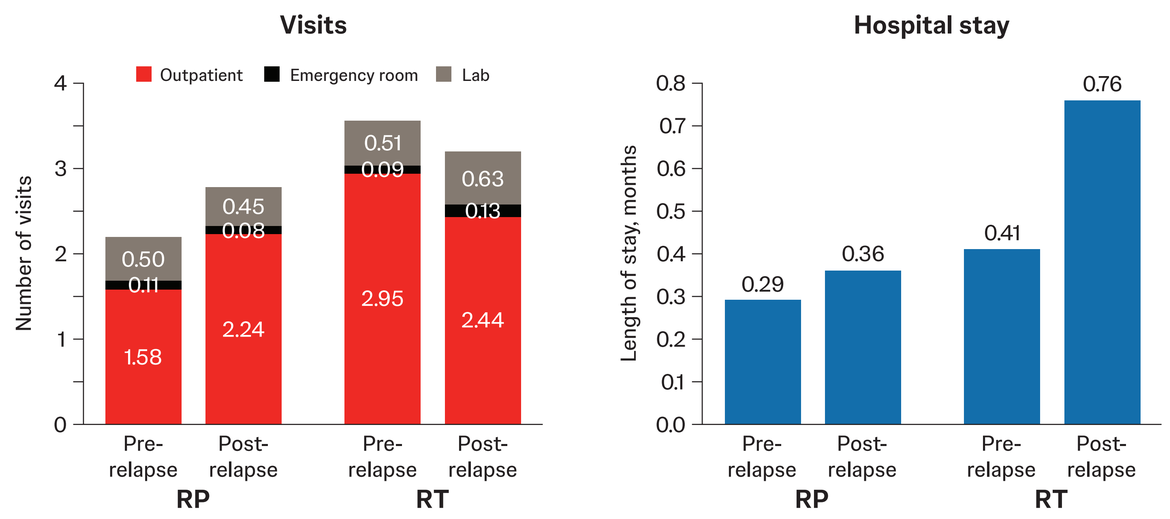
	Starting with RP		Starting with RT	
	Pre n=4938	Post n=4938	Pre n=3236	Post n=3236
Duration of pre-/post-relapse states				
Mean (SD) duration, months	15.8 (19.4)	32.4 (29.3)	28.9 (24.1)	25.6 (25.6)
Mean costs, US$ per patient per month				
Total costs	3913	3754	4347	5238
Pharmacy costs (pharmacy claims)	232	753	333	1417
PC drugs	189	939	169	1550
Other drugs	212	239	247	373
Total medical costs	3681	3001	4014	3821
Inpatient	2239	1668	1664	2593
Outpatient	1657	2249	3104	2179
Emergency room	127	111	158	204
Other medical costs	114	90	109	131

PC, prostate cancer; RP, radical prostatectomy; RT, radiation therapy; SD, standard deviation.

HCRU pre- and post-relapse

- Numbers of outpatient and emergency room visits were higher among patients who started with RT than those who started with RP (Figure 3)
- Patients receiving RP had more post-relapse than pre-relapse outpatient visits
- Patients receiving RT had more pre-relapse than post-relapse outpatient visits
- Patients who started with RT had longer hospital stays than those who started with RP (Figure 3)

Figure 3: Unadjusted HCRU during pre- and post-relapse periods among patients who started with RP and RT



RP, radical prostatectomy; RT, radiation therapy.

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Disclosures
Dr. Siebert has nothing to disclose.

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