

# A real-world comparison of deep prostate-specific antigen response in patients with metastatic castration-sensitive prostate cancer initiated on apalutamide or abiraterone acetate

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Oncology

# Background

✓ Apalutamide and abiraterone acetate are approved for use in mCSPC<sup>1,2</sup>

## Phase 3 trials



**TITAN<sup>3</sup> (apalutamide)**

**LATITUDE<sup>4</sup> (abiraterone acetate)**

Both demonstrated statistically significant reduction in disease progression<sup>3-5</sup>

## Real-world studies



Apalutamide is significantly associated with a **higher likelihood of achieving a PSA90 response<sup>6</sup>**



A need to evaluate the robustness of these studies

Through restricting analysis to patients **with a detectable baseline PSA (>0.2 ng/mL)**



Real world study comparing the **proportion of patients achieving PSA90 response by 6 months**

In patients with mCSPC with detectable PSA who newly initiated:

Apalutamide

VS

Abiraterone acetate

ARPI, androgen receptor pathway inhibitor; mCSPC, metastatic castration-sensitive prostate cancer; PSA, prostate specific antigen; PSA90, ≥90% decline in prostate specific antigen.

1. U.S. Food and Drug Administration. FDA approves apalutamide for metastatic castration-sensitive prostate cancer. 2019. Available at: <https://www.fda.gov/drugs/resources-information-approved-drugs/fda-approves-apalutamide-metastatic-castration-sensitive-prostate-cancer>. Accessed 18 Dec 2025; 2. U.S. Food and Drug Administration. FDA approves abiraterone acetate in combination with prednisone for high-risk metastatic castration-sensitive prostate cancer. 2018. Available at: <https://www.fda.gov/drugs/resources-information-approved-drugs/fda-approves-abiraterone-acetate-combination-prednisone-high-risk-metastatic-castration-sensitive>. Accessed on 18 Dec 2025; 3. Chi KN, et al. J Clin Oncol. 2021;39(20):2294-2303.

4. Fizazi K, et al. Lancet Oncol. 2019;20(5):686-700. 5. Chi KN, et al. N Engl J Med. 2019;381(1):13-24. 6. Brown G, et al. Rev Urol. 2024;23(2):e15-e27.

# Methods

## Retrospective analysis comparing PSA90 in ARPI-naïve patients with mCSPC newly initiated on apalutamide versus abiraterone acetate

### Primary endpoint



PSA90 response by 6 months



**Precision Point Specialty**  
A clinical EMR database



**Data sources**  
Linking patient level data



**Komodo Research Database**  
An insurance claims database



**Study period:** 01/01/2016 – 06/30/2025

Precision Point Specialty Analytics Database  
linked to Komodo Research Claims Database

≥1 paid claim or dispensation for any ARPI on or after  
September 17, 2019 (first paid claim or dispensation = index date)  
N=26,952

Apalutamide as first  
paid claim or dispensation  
N=5,776

Abiraterone acetate as first  
paid claim or dispensation  
N=8,139

Patient selection criteria met

**Apalutamide cohort**  
N=1,567

**Abiraterone  
acetate cohort**  
N=1,116

### Statistical analyses

Power calculation

Adequately  
powered

Balance confounding  
baseline variables

IPTW

Compare OS  
between cohorts

Weighted Cox  
proportional  
hazards model



#### Select Inclusion criteria

- Adult patients with ARPI-naïve mCSPC



#### Select Exclusion criteria

- No detectable PSA
- Prior use of an ARPI or advanced treatment
- Diagnosis for another primary cancer

ARPI, androgen receptor pathway inhibitor; EMR, electronic medical records; IPTW, inverse-probability of treatment weighting; mCSPC, metastatic castration-sensitive prostate cancer; PSA, prostate specific antigen; PSA90, ≥90% decline in prostate specific antigen.

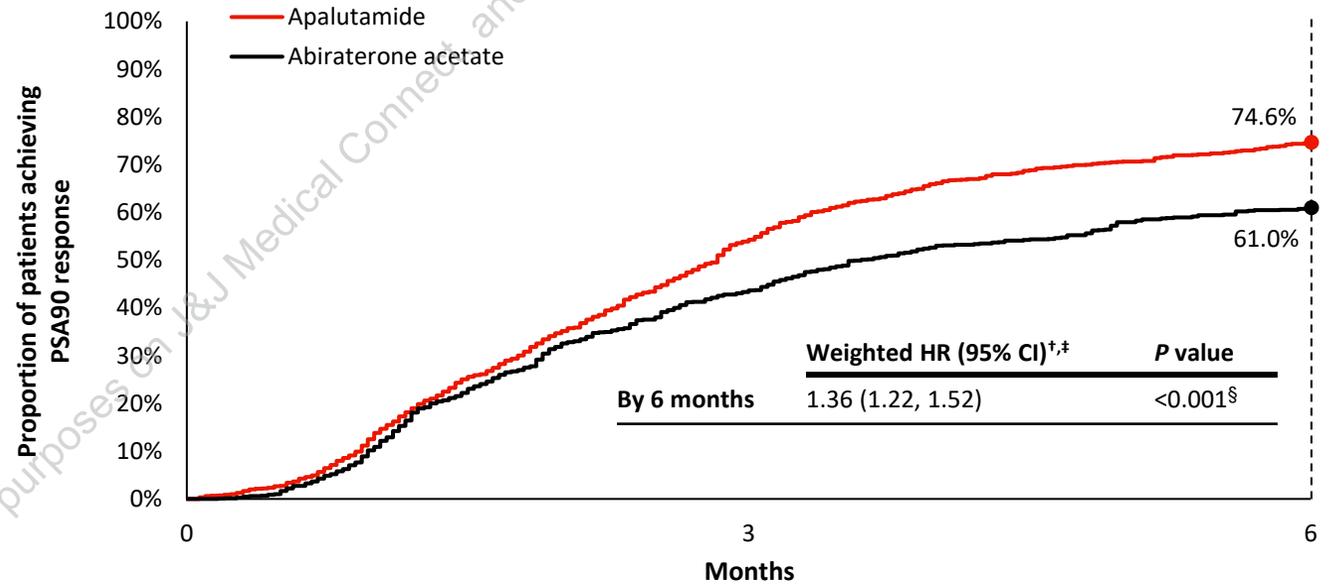
# Results

## Patient population

Select patient characteristics*	Apalutamide N=1,567	Abiraterone acetate N=1,116	Standardized difference, %
Mean age, years	73.0	72.8	2.4
<b>Race</b>			
White	63.7%	64.1%	0.8
Black	19.6%	19.3%	0.7
Other	11.3%	10.9%	1.3
Unknown	5.4%	5.7%	1.3
Medicare-insured	79.0%	77.8%	2.8
<b>Index year</b>			
<2020	17.8%	17.8%	0.2
2021	19.7%	19.8%	0.2
2022	23.6%	24.2%	1.3
2023	22.4%	23.0%	1.7
2024	11.6%	11.7%	0.5
2025	4.9%	3.6%	6.9
Median time between metastasis and index date, months	1.6 [0.7, 4.5]	1.6 [0.7, 4.4]	0.9
Median baseline PSA level, ng/mL	6.2	6.6	0.2
Mean Quan-CCI	10.0	10.0	0.3
<b>Metastasis type</b>			
Bone	58.0%	57.6%	0.9
Nodal	47.0%	47.8%	1.7
Visceral	16.8%	17.3%	1.4
Multiple sites	28.3%	28.5%	0.6
De novo mCSPC	48.9%	50.1%	2.3
Concurrent use of ADT	97.4%	97.2%	1.5

## PSA90 response

By 6 months: Apalutamide **↑ 36%** higher likelihood in achieving PSA90 response



Patients at risk at 6 months:

**Apalutamide:**  
238 (15.2%)

**Abiraterone acetate:**  
259 (23.2%)

\*After probability of treatment weighting. <sup>†</sup>Propensity scores were generated using probability estimates from a logistic regression models using the following predictors: age, race, geographic region, payer, year of index date, time between metastasis and index date, time between first observed PC diagnosis and index date, de novo mCSPC, concurrent use of ADT, prior use of first-generation antiandrogens, bone antiresorptive therapy, most recent PSA level, earliest Gleason score, types of metastases (bone, nodal, visceral, and metastasis in multiple sites) and Quan-CCI score. Each patient was attributed an inverse-probability of treatment weight that was defined as follows: 1/(propensity score) for the apalutamide cohort and 1/(1-propensity score) for the abiraterone acetate cohort. Normalized inverse-probability of treatment weights were truncated at the 95th percentiles. <sup>‡</sup>A hazard ratio >1 indicates that the apalutamide cohort had a higher PSA90 rate compared with the abiraterone acetate cohort. <sup>§</sup>Significant at the 5% level.

ADT, androgen deprivation therapy; CI, confidence interval; HR, hazard ratio; mCSPC, metastatic castration-sensitive prostate cancer; PSA, prostate specific antigen; PSA90, ≥90% decline in prostate specific antigen; Quan-CCI, Quan-Charlson Comorbidity Index.

# Limitations and conclusions

## Limitations

1. Potential for measurement bias
2. Unknown cofounders may be present
3. Possible underestimation of PSA90 response rates
4. Longer PSA90 follow-up may be required

ABI, Abiraterone acetate; APA, apalutamide; mCSPC, metastatic castration-sensitive prostate cancer; PSA, prostate specific antigen; PSA90, ≥90% decline in prostate specific antigen.

1. Brown G, et al. Rev Urol. 2024;23(2):e15-e27. 2. Chowdhury S, et al. Ann Oncol. 2023;34(5):477-85.

## Conclusions

In mCSPC patients **with a detectable PSA<sup>1</sup>**:

Apalutamide

 **36%**

**more likely** to achieve PSA90 by 6 months post-treatment initiation

vs

Abiraterone acetate

Comparison with previous studies:



**Consistent with** real-world evidence comparing effectiveness of APA versus ABI<sup>1</sup>



ABI 6-month PSA90 **consistent with** Phase 3 TITAN<sup>2</sup>



APA 6-month PSA90 response rates were **higher than** in prior real-world analyses<sup>1</sup> as this study excluded patients with undetectable PSA