Comparable efficacy of abiraterone and enzalutamide in United States Veterans with metastatic castration-sensitive prostate cancer (mCSPC). An updated analysis.

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Background: Lacking comparative data comparing to guide the choice of 1st line androgen receptor pathway inhibitor (ARPi) in mCSPC, physicians often make decisions based on comorbidities and personal preference/bias.. We have developed a novel method to estimate rates of tumor growth (***g***-rate) and have shown that the ***g***-rate is a robust biomarker of drug efficacy and overall survival in prostate cancer (Wilkerson, 2017; Leuva, 2019). We performed a 1:1 matched analysis to compare Abi and Enza outcomes in 1st line mCSPC, using ***g***-rate and median overall survival (mOS) estimates.

Methods: We collected data in the VA corporate warehouse from all Veterans with a diagnosis of mCSPC from 7/2017 to 4/2023. Treatment efficacy was established by estimating rates of tumor growth (***g***-rate) using the TUMGr package for R and PSA values while on therapy. Matched analyses were conducted with cohorts for abiraterone and enzalutamide, matched on age (±5 years), race, total number of therapies received (1/≥2), drug start year (<2020/≥2020), PSA at diagnosis (<20/≥20), Gleason score (<8/≥8), Charlson comorbidity index excluding cancer diagnosis (<5/≥5) and therapy setting (urban/rural).

Results: We identified a total of 1756 and 410 patients who received abiraterone or enzalutamide as 1st line, with median follow-ups of 33 and 26 mo, respectively. Given abiraterone's earlier approval in mCSPC, the enzalutamide cohort has fewer Veterans and shorter duration of follow up. The entire abiraterone and enzalutamide cohorts had similar median ***g***-rates 0.000135/d and 0.000139/d, respectively (p = 0.15). The mOS was 40 mo for abiraterone versus 35 (NR) for enzalutamide (p = 0.15). Analyses were performed using matched cohorts, which identified 345 matched patients and found statistically similar median ***g***-rates and mOS. We also analyzed matched cohorts of Caucasian (n=263 in each cohort) and Black (n=88 in each cohort) Veterans. For the Caucasian Veterans, there was no difference (p=0.81) between the median ***g***-rate with abiraterone (0.00134/day) and enzalutamide (0.00144/day) which also translated into no difference in median OS between the two groups. For Black Veterans, there was neither a significant difference in abiraterone vs. enzalutamide ***g***-rate (0.00125/day vs. 0.00132/day, p=0.95) nor the abiraterone vs. enzalutamide median OS (33.7 vs. 40.3, p=0.49).

Conclusions: Data from 2166 Veterans receiving standard of care abiraterone and enzalutamide in the real world as 1st line for mCSPC, show comparable efficacy with similar ***g***-rates and mOS, even when matched on various factors, including comorbidities, and in aggressive/high volume matched cohorts. Black Veteran patients also had similar ***g***-rates and mOS.

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