progression and how it would impact their family and lives, the impact that mCRPC has on their daily, physical abilities [e.g. difficulty walking, muscle loss] and the impact a patients’ mCRPC has on the family and caregivers. Patients had high expectations from Ra-223 in terms of cessation of disease progression (32%) and pain alleviation (23%), but also worry about adjusting to the treatment. All 3 physicians cited the need for information sharing about Ra-223.

Conclusions: The symptoms and impacts of living with mCRPC and the associated burden of bone metastasis and skeletal-related symptoms are considerable and varied, and information sharing is key to easing concerns in utilizing Ra-223 treatment.

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230P  Molecular profiling and clinical characteristics of Chinese patients with prostate cancer

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Background: Prostate cancer (PCa) is one of the most common types of cancer in men. Androgen deprivation therapy (ADT) is the main choice of PCA treatment. However, major investigations have focused on caucasian population. Here, we intended to explore the molecular characteristics and clinical characteristics between localized and metastatic of Chinese PCA patients.

Methods: 29 PCA patients with localized or metastatic tumor were enrolled. Somatic and germline mutations were identified via targeted next generation sequencing with 458 cancer genes panel including 808 genes associated with tumor development. Sequencing data were analyzed to call tumor specific single nucleotide variants (SNV), small insertions and deletions (Indels), copy number alterations (CNA) and chromosomal rearrangements. Clinical data of the cohort was collected and analyzed.

Results: Median age was 68 years (range 53-80), 62% were classified as metastatic (M), and 17% had received one prior ADT drug. The most common somatic mutations were observed in TP53 (24%), FOXA1 (21%), CDK12 (17%), AR (10%), KRAS (7%), PIK3CA (7%), SPOP (7%), PDE1C (7%), ATM (7%) and TSC2 (3%) genes. Median tumor mutational burden (TMB) was 7 Muts/Mb(1-22). Germline pathogenic or likely pathogenic mutations occurred 17% of PCA patients. 4/5 mutations were DNA damage reverse genes, and 4 patients had metastatic PCA. AR was shared by both localized and metastatic PCA (2 in ADT- and 1 in ADT+). Mutated CDK12 was only detected in patients without any history of ADT (3 in M- and 2 in M+). Interestingly, TP53 mutations were only detected in metastatic PCA (17/8 M+). FOXA1 mutations were preserved more frequently in patients with localized PCA (4/11 M- versus 2/18 M+). Conclusions: These findings show differences in the genomics alterations of metastatic and localized prostate cancer. Germline mutations more likely to be detected in patients with advanced prostate cancer. The mutations in the TP53 gene are more common in advanced prostate cancer. Additional correlative analyses are ongoing.

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231P  Phase II study of pembrolizumab in docetaxel-pretreated patients with metastatic castration-resistant prostate cancer (mCRPC): Updated follow-up of cohorts (C) 1-3 from KEYNOTE-199


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Background: Pembrolizumab monotherapy has shown antitumor activity and acceptable safety in patients with mCRPC previously treated with a hormonal agent (HAA) and docetaxel.

Methods: The KEYNOTE-199 phase II study (NCT02787005) enrolled patients with RECIST-measurable PD-L1+ disease, RECIST-measurable PD-L1- disease, and bone-predominant disease irrespective of PD-L1 status in C1, C2, and C3, respectively. Patients had prior treatment with ≥1 HAA and 1 or 2 chemotherapies, including docetaxel, and received pembrolizumab 200 mg Q3W for 35 cycles or until progression/toxicity. The primary end point was ORR per RECIST v1.1 by blinded independent central review. Key secondary end points were time to PSA progression, DCR, PSA response rate, rFFS, OS, DOR, and safety.

Results: In total, 258 patients were treated (C1: 133; C2: 67; C3: 58), of whom 6 completed therapy (C1: 4; C3: 2). The median (range) time from enrollment to data cutoff was 31.3 mo (26.7-34.7), 30.6 mo (28.0-34.1), and 32.6 mo (27.4-34.4) in C1, C2, and C3, respectively. In patients with measurable disease, ORR (95% CI) was 6% (2.6-11.5) in C1 and 3% (0.4-10.4) in C2, and 6 of 10 responders experienced DOR >18 mo (Table). Median time to PSA progression was 4 months regardless of cohort (Table). Grade >3 treatment-related AEs (TRAEs) occurred in 16%, 15%, and 17% of patients.