62-year-old man with metastatic castration sensitive prostate cancer

Photo by Hobi industri on Unsplash

Using PSMA-PET for accurate staging in biochemical recurrent metastatic prostate cancer

PET, positron emission tomography; PSMA, Prostate-specific membrane antigen

Case courtesy of Associate Professor Yao ZHU, Fudan University, Shanghai Cancer Center

Disclaimer

- These case studies include information about Janssen products, some of which may not be approved for the treatment of patients in Asia Pacific.
- Any such data shared in this case study is for obtaining feedback, and/or for educational purposes and should not be interpreted as intent to promote unapproved uses.
- Janssen prohibits the promotion of unapproved uses in any fashion and complies with all applicable laws, regulations, and company policies.
- Please refer to the relevant SmPC of any compounds mentioned in this case study for full prescribing information. As prescribing information may vary from country to country, please refer to your local prescribing information for complete details.

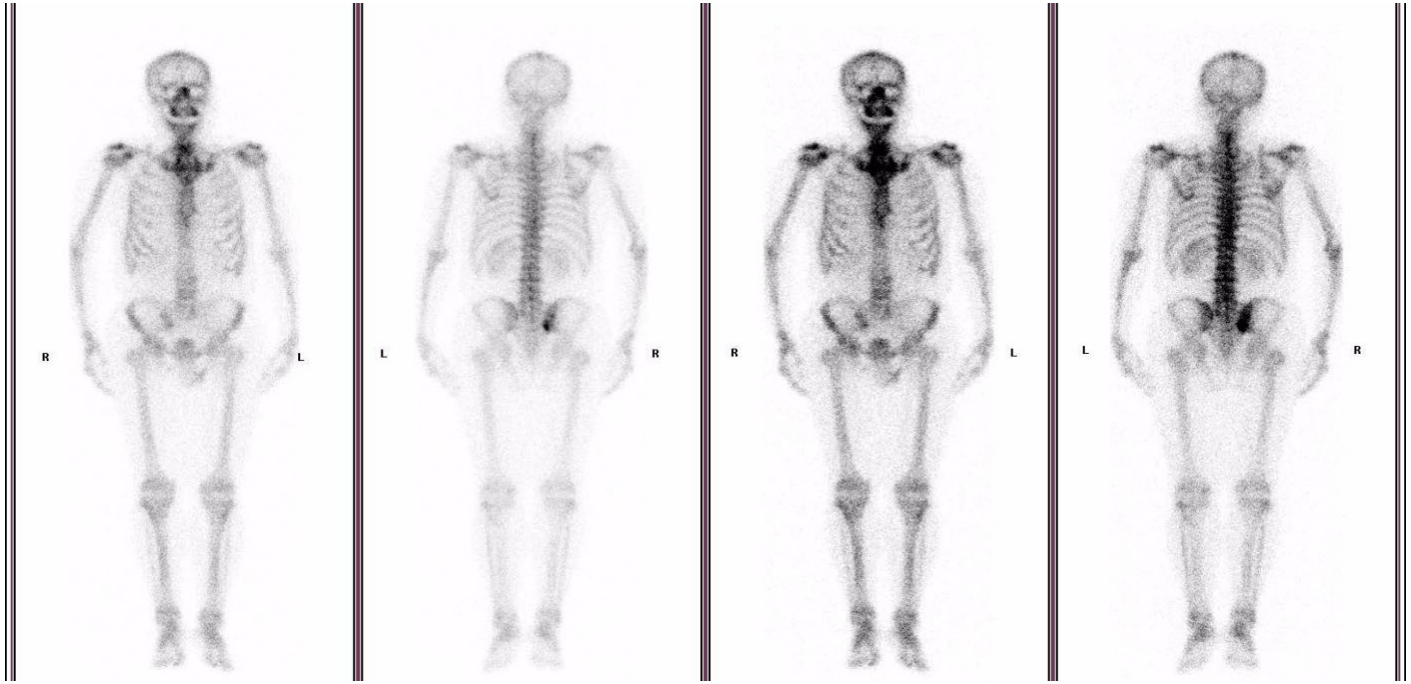
CLINICAL PRESENTATION

62-year-old man with prostate cancer presents with rising PSA two years after radical prostatectomy

Photo by Hobi industri on Unsplash

PSA level (March 2019):
Increased to 0.23 ng/ml

ECT scan (March 2010): **Negative**



ECT, Electroconvulsive therapy PSA, prostate-specific antigen

Case courtesy of Associate Professor Yao ZHU, Fudan University, Shanghai Cancer Center

MEDICAL AND TREATMENT HISTORY

PSA level: 7.33 ng/ml
Gleason scores
- 9(5+4) in 10/12 biopsies
- 8(4+4) in 2/12 biopsies

APRIL 2017
(INITIAL DIAGNOSIS)

Radical prostatectomy (surgery was performed uneventfully)

AUGUST 2017
(INTERVENTION)

- Prostate adenocarcinoma plus intraductal carcinoma
- Gleason score: 5+4
- pT3aN0
- Negative surgical margin

AUGUST 2017
(POSTOPERATIVE PATHOLOGY)

PSA level: 0.04 ng/ml

OCTOBER 2017
(FIRST POSTOPERATIVE FOLLOW-UP)

Regular PSA tests every 3 months (without adjuvant treatment)

PSA, prostate-specific antigen

PSMA-PET is recommended for accurate staging in biochemical recurrent prostate cancer[1,2]

PSMA-PET is as or **more sensitive and specific in detecting micrometastatic disease** than conventional imaging tools for patients with biochemical recurrence[1,2]
-NCCN & EAU guidelines

PSMA-PET recommendations for biochemical recurrent prostate cancer[2]

- After radical prostatectomy if PSA level is > 0.2 ng/mL and results will influence subsequent treatment decisions
- After radiotherapy if patients are fit for curative salvage treatment

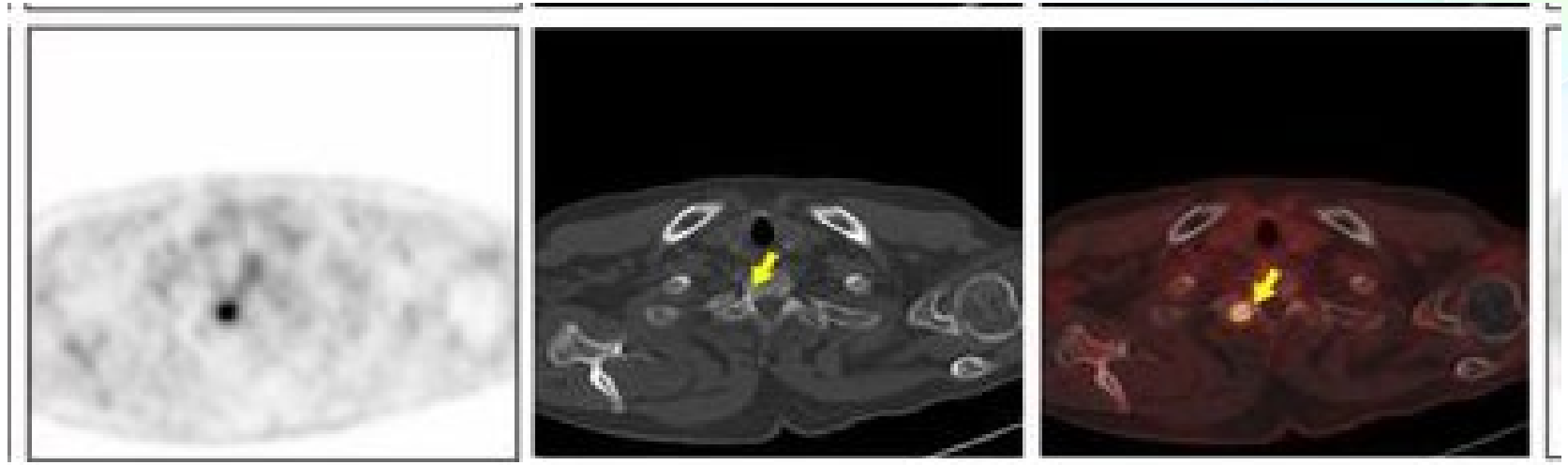
EAU, European Association of Urology; NCCN, National Comprehensive Cancer Network; PET, positron emission tomography; PSA, prostate-specific antigen; PSMA, Prostate-specific membrane antigen

1. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology (Prostate Cancer). Version 2.2022 (November 30, 2021). 2. Mottet N, et al. Eur Urol. 2021;79(2):243-262.

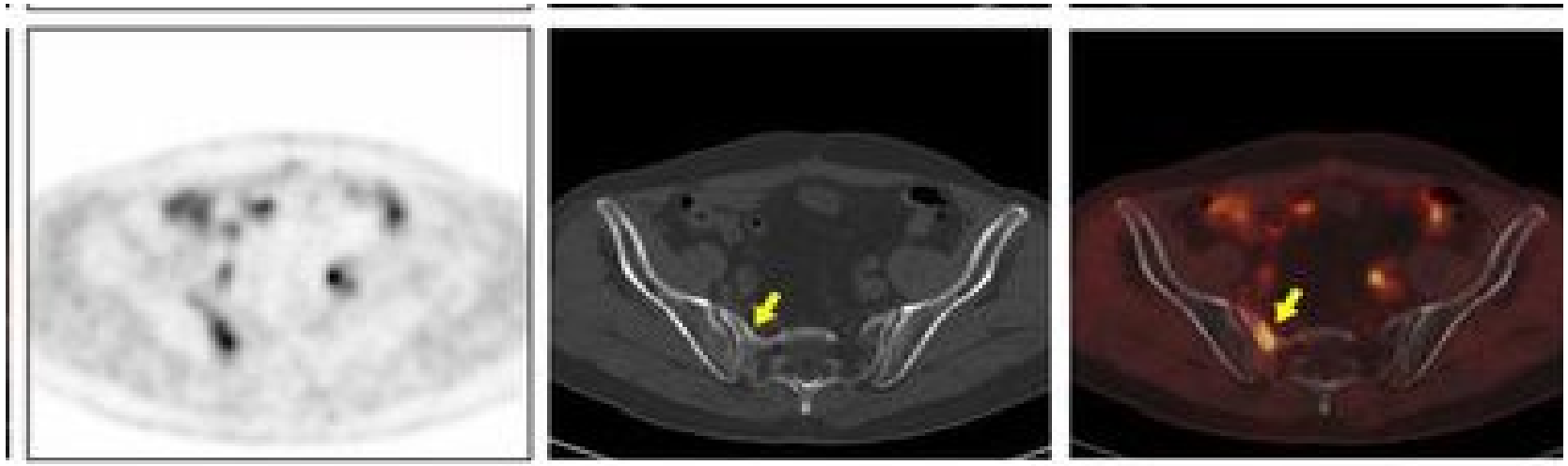
Case courtesy of Associate Professor Yao ZHU, Fudan University, Shanghai Cancer Center

PSMA PET/CT TEST RESULTS (APRIL 2019)

- **1 positive lesion on the T2 thoracic vertebra**



- **1 positive lesion on the sacrum**



CT, computed tomography PET, positron emission tomography; PSMA, prostate-specific membrane antigen

INTERVENTION

Which of the following treatment options would you offer this patient?

- Radiotherapy to primary site
- ADT + radiotherapy to PSMA-positive metastases
- ADT + NHT (eg, ABI, ENZA, APA) + radiotherapy to PSMA-positive metastases
- ADT only
- ADT + NHT
- Other

ABI, abiraterone; ADT, androgen-deprivation therapy; APA, apalutamide; ENZA, enzalutamide; NHT, novel hormonal therapy; PSMA, Prostate-specific membrane antigen

Case courtesy of Associate Professor Yao ZHU, Fudan University, Shanghai Cancer Center

INTERVENTION AND OUTCOMES

Treatments received

ADT + APA	**SBRT to metastatic sites according to PSMA-PET**

PSA decreased to < 0.05 ng/ml at 3 months

PSMA-PET reported no significant PSMA uptake

Patient had mild hot flash

No significant AE was reported

AE, adverse event; ADT, androgen-deprivation therapy; APA, apalutamide; PET, positron emission tomography; PSMA, Prostate-specific membrane antigen; SBRT, stereotactic body radiation therapy

PSMA-PET FOR ACCURATE STAGING AND TREATMENTS FOR MCSPC

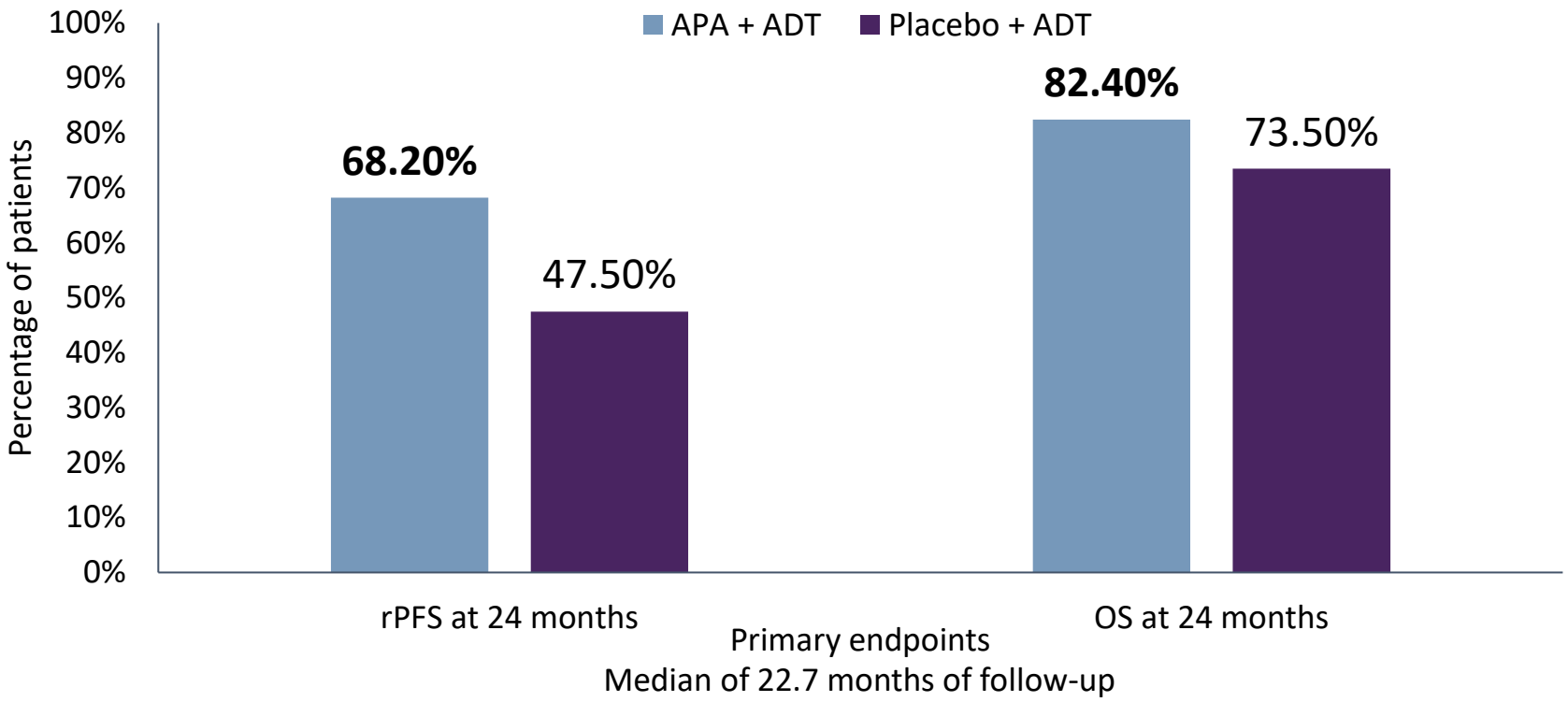
PSMA-PET is recommended for accurate staging in biochemical recurrent prostate cancer

APA plus ADT improved survival outcomes in mCSPC

Radio-ablation of metastatic disease in oligometastases prostate cancer increased disease progression-free rate

APA plus ADT improved survival outcomes in mCSPC

Adding APA to ADT significantly improved rPFS and OS in mCSPC



33% lower risk of death with APA

HR for radiographic progression or death:	**0.48** (95% CI, 0.39 to 0.60); **P<0.001**
HR for death:	**0.67** (95% CI, 0.51 to 0.89); **P = 0.005**

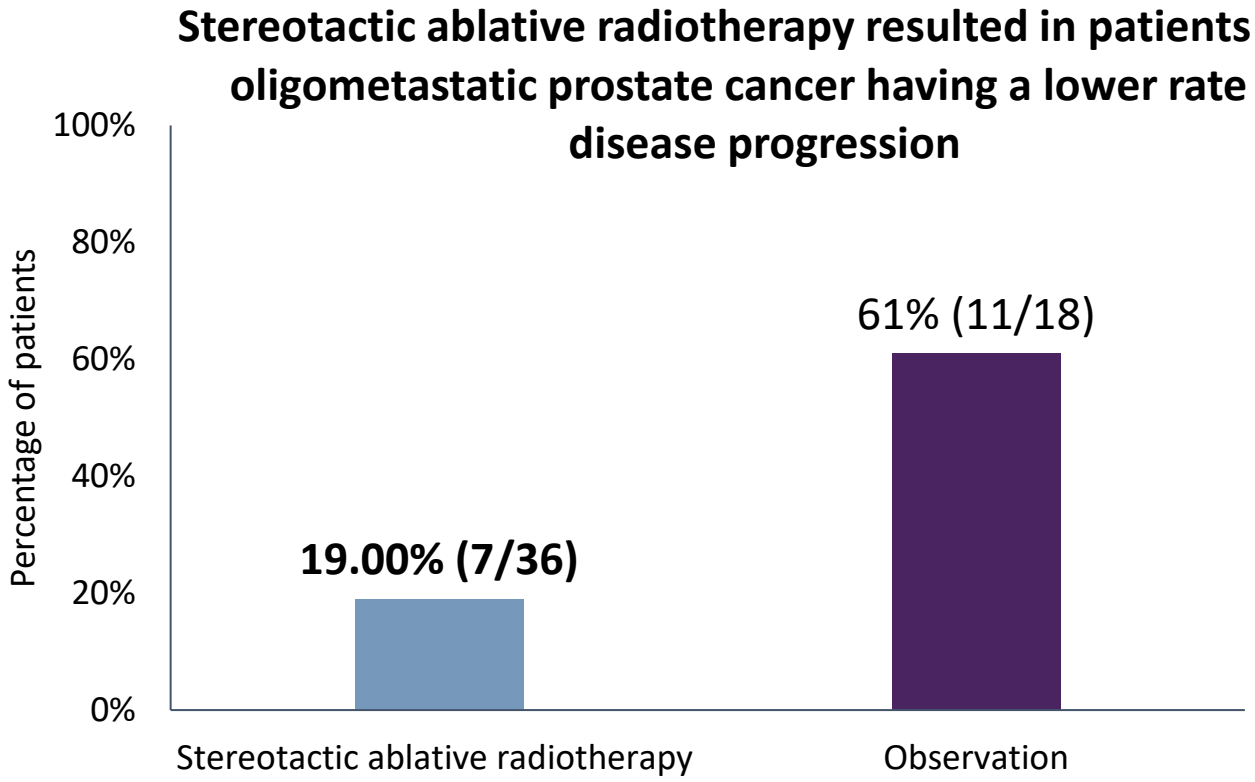
TITAN: In this double-blind, phase III trial, 525 patients with mCSPC were randomly assigned to receive APA (240 mg per day) plus ADT or placebo plus ADT

- Median age was 68 years
- 16.4% underwent prostatectomy or received radiotherapy for localized disease

ADT, androgen-deprivation therapy; APA, apalutamide; CI, confidence interval; HR, hazard ratio; mCSPC, metastatic castration sensitive prostate cancer; OS, overall survival; rPFS, radiographic progression–free survival

Chi KN, et al. N Engl J Med 2019;381(1):13-24.

Radio-ablation of metastatic disease in oligometastases prostate cancer increased disease progression-free rate



Stereotactic ablative radiotherapy improved median PFS (HR, 0.30 (95%CI, 0.11-0.81); P = 0.002

Median PFS

Stereotactic ablative radiotherapy:	**Not reached**
Observation :	**5.8 months**

ORIOLE: In this phase 2, randomized study, 54 patients with recurrent hormone-sensitive prostate cancer were randomized in a 2:1 ratio to receive stereotactic ablative radiotherapy or observation

- Median age was 68 years

PFS, progression-free survival

Phillips R, et al. JAMA Oncol. 2020;6(5):650-659.

CONCLUSION

Based on the evidence, the patient received **regional as well as systemic treatment**

- TITAN: **Adding apalutamide to androgen deprivation therapy** in metastatic castration sensitive prostate cancer **improved survival outcomes**[1]
- ORIOLE: **Radio-ablation of metastatic disease in oligometastases** prostate cancer **increased progression-free rate**[2]

The patient's **short-term outcome was good**

Photo by Hobi industri on Unsplash

1. Chi KN, et al. N Engl J Med 2019;381(1):13-24. 2. Phillips R, et al. JAMA Oncol. 2020;6(5):650-659.