

Exceptional Response of Rare Plasmacytoid Variant Prostate Cancer Post ^{177}Lu -PSMA Therapy Seen on ^{68}Ga -PSMA PET/CT

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Abstract: Plasmacytoid is a rare variant of acinar prostatic adenocarcinoma. The aggressive type is characterized by an aggressive clinical course, lack of responsiveness to hormonal therapies, and an overall poor prognosis. Here we present pretherapy and posttherapy ^{68}Ga -PSMA PET/CT images showing an exceptional response to ^{177}Lu -PSMA therapy. This case demonstrates the usefulness of both ^{68}Ga -PSMA PET/CT in assessing the tumor PSMA avidity and the potential of ^{177}Lu -PSMA therapy in these patients.

Key Words: PSMA, PRLT, lutetium, prostate cancer, plasmacytoid, PET/CT, mCRPC

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Informed consent: Informed consent was obtained from the patient.

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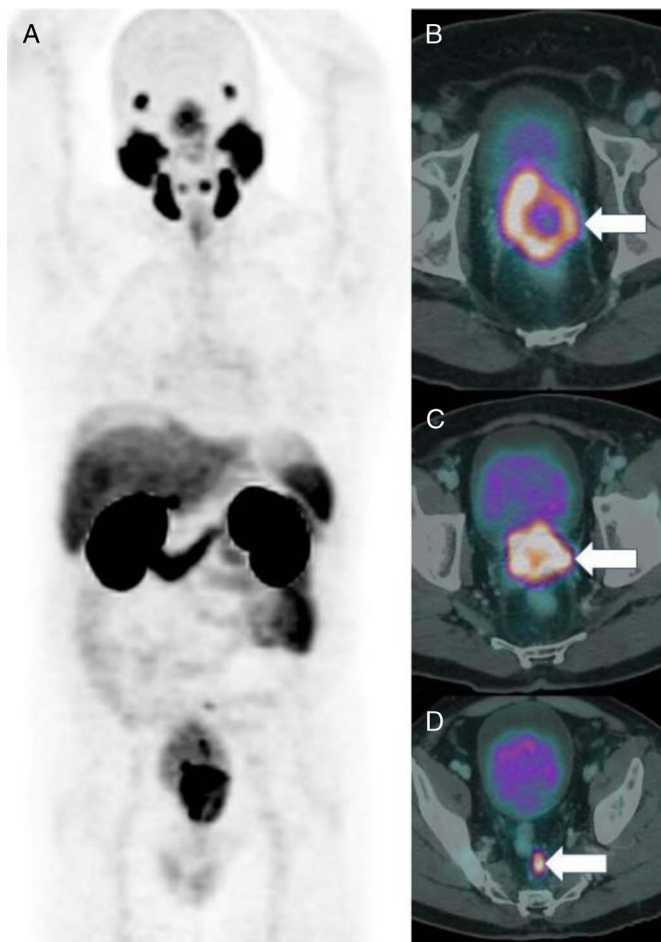


FIGURE 1. A–D, A well-functioning (ECOG 0), 66-year-old man, presented with histology confirmed plasmacytoid variant of prostatic adenocarcinoma—aggressive type, Gleason grade 10 (5 + 5).¹ Previous therapy history included Xtandi and Zoladex. Clinical symptoms before therapy included fatigue, lower back pain, and chest pain. A ⁶⁸Ga-PSMA PET/CT demonstrated metastatic regional adenopathy within the mesorectum and presacral space up to the left common iliac level. A PSMA-avid prostate mass exhibited extrinsic compression and local invasion into bladder base, rectum, and small bowel.^{2–4}

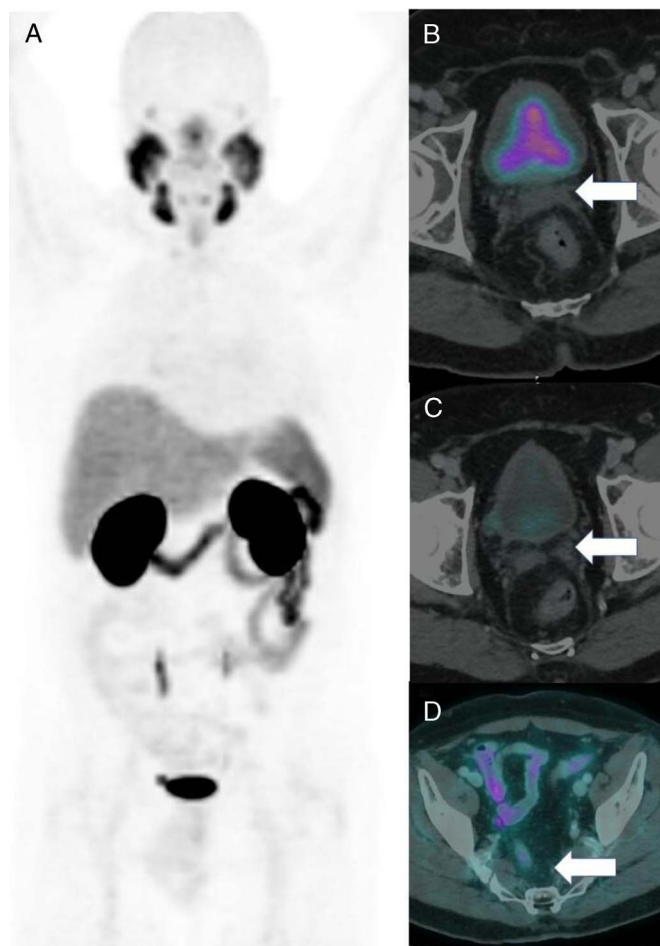


FIGURE 2. A–D, ¹⁷⁷Lu-PSMA therapy is gaining momentum in achieving desirable results with minimal adverse effects in mCRPC.^{5–8} The patient was referred for 4 cycles ¹⁷⁷Lu-PSMA therapy. A posttherapy ⁶⁸Ga-PSMA PET/CT confirmed complete response. The PSA 14.10 ng/mL before therapy reduced to <0.01 post 4 cycles of Lu-PSMA. Patient had complete clinical and biochemical response with no new symptoms.