

Unusual presentation of castrate-resistant prostate cancer with urethral and inguinal nodal metastasis

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ABSTRACT

Metastatic involvement of the urethra is a rare finding in patients with carcinoma prostate. The signs and symptoms overlap with those of a primary urethral malignancy. The diagnosis is made following a biopsy of the suspected lesions. We describe the case of a 66-year-old patient with carcinoma prostate who presented with penile pain, 18 months after the treatment with androgen deprivation therapy. Ga-68 prostate-specific membrane antigen positron emission tomography/computed tomography helped in the identification of the urethral and inguinal nodal metastasis, which was confirmed histologically. We also discuss the management of this unusual clinical scenario.

A 66-year-old male with prior history of obstructive lower urinary tract symptoms, underwent transurethral resection of the prostate (TURP) elsewhere. His preoperative prostate-specific antigen (PSA) was 71 ng/ml and the histopathology report of the specimen was suggestive of adenocarcinoma of the prostate, Gleason 9 (5 + 4) with 90% of the tissue submitted involved by the tumor. He was referred to us for further management and had no significant complaints at the time of presentation. Digital rectal examination revealed a grossly enlarged, hard, nodular prostate. *Magnetic resonance imaging* of the prostate was suggestive of a large lesion in the prostate with extracapsular extension and involvement of the bilateral seminal vesicles (cT3b). The bone scan and CT abdomen were within the normal limits. He was advised androgen deprivation therapy with radiotherapy but opted for surgical castration alone due to financial constraints. His PSA decreased to 2.41 ng/ml after 1 month. The patient was lost to follow-up and presented after 18 months (20-month post-TURP) with constant dull ache on the ventral aspect of the penis. He had no disturbances in the urine flow, urgency, frequency, nocturia, hematuria, or urethral discharge. On

examination, the entire urethra was indurated and tender to palpate and the corpora cavernosa were normal. The routine blood and urine workup was normal, but the PSA was 27.3 ng/ml. The uroflowmetry revealed a mild obstructive pattern of the flow. The patient was categorized as castrate resistant, and a Ga-68 prostate-specific membrane antigen (PSMA) positron emission tomography/computed tomography (PET/CT) scan was performed which revealed uptake in the prostate (maximum standardized uptake value [SUV_{max}] 51.6) and almost along the entire length of the corpora spongiosa and urethra, up to the glans (SUV_{max} of 37.7) suggestive of metastasis [Figure 1a-c]. Either of the corpora cavernosa were not involved. Ga-68 PSMA uptake was also seen in the left inguinal nodes with a SUV_{max} of 5.9 [Figure 1d and e]. The rest of the scan was unremarkable. The cystourethroscopy revealed multiple papillary lesions in the penile and bulbar urethra [Figure 2a and b]. The cold cup biopsy of the urethral lesions was performed and the histological examination was suggestive of prostate adenocarcinoma, with no evidence of neuroendocrine differentiation. Immunohistochemistry with GATA-3 did not show any uptake ruling out the presence of the urothelial component. The case was discussed in a

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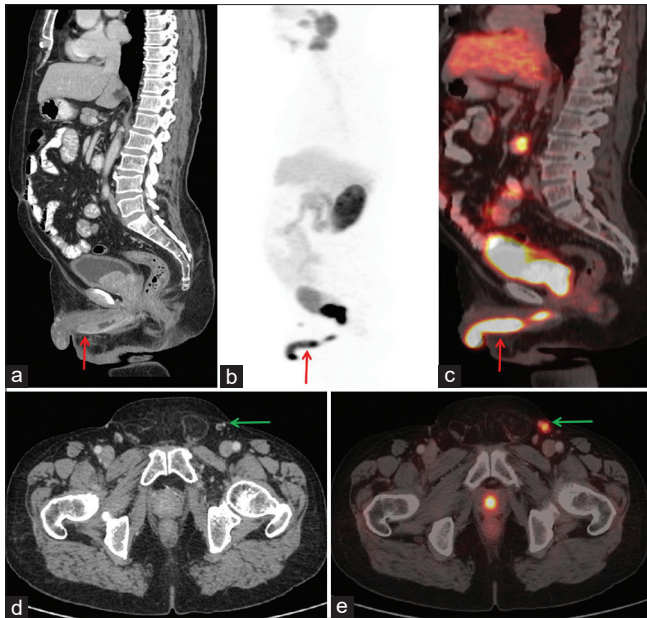


Figure 1: (a) Computed tomography, (b) Ga-68 prostate-specific membrane antigen positron emission tomography maximum intensity projection image, and (c) Ga-68 prostate-specific membrane antigen positron emission tomography/computed tomography image showing the metastatic lesion (red arrows). The axial image of (d) computed tomography and (e) Ga-68 prostate-specific membrane antigen positron emission tomography/computed tomography showing the uptake in the left inguinal nodes (green arrow)

multidisciplinary meeting, and the patient was started on docetaxel based chemotherapy and was also started on a combination of tramadol and paracetamol for pain relief. The urethral pain and induration decreased after the completion of the second cycle of docetaxel (6 weeks after initiation of chemotherapy). The patient did not need analgesics after that, and his PSA declined to 4.4 ng/ml. At the last follow up, the patient had completed 10 cycles of docetaxel, his PSA was 4.04ng/ml and was doing well

The involvement of urethra by metastasis from the prostate carcinoma is uncommon. This may result from direct spread or lymphatic spread or implantation, especially in patients with a prior history of instrumentation. The patients may present with hematuria, obstructive voiding symptoms, dysuria, urethral discharge, pain, etc., On clinical examination, the urethra may feel normal or nodular.^[1-3] The urethral lesions are typically delineated on urethroscopy and are commonly confused with transitional cell carcinoma of the urethra, due to their similar visual appearance.^[1,4] A biopsy of the lesion is confirmatory. In the present case, the metastatic involvement of the urethra was detected by Ga-68 PSMA PET/CT scan, which has been shown to have a high sensitivity and specificity in patients with prostate cancer.^[5] The involvement of the inguinal nodes was an interesting finding in the present case, as the isolated involvement of the inguinal nodes (without pelvic node involvement) is uncommon in patients with prostate cancer. Such an involvement results from the presence of aberrant lymphatic

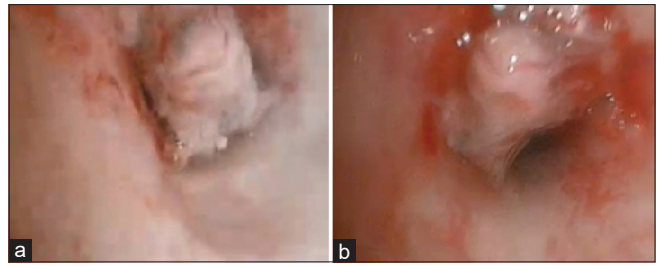


Figure 2: Urethroscopic images showing papillary lesions seen in (a) the penile urethra and (b) bulbar urethra

channels from the prostate to the groin, especially along the gonadal vein.^[6] The involvement of the urethra leads to the subsequent lymphatic dissemination of the tumor cells to the inguinal nodes. The urethral metastatic lesions have been managed by endoscopic resections, hormone manipulation in castration-naïve setting, urethrectomy, urinary diversions, etc.^[1,3,7] Our case also highlights the fact that these lesions, in patients with castrate-resistant prostate cancer, tend to respond well to chemotherapy. This information can be useful in patient management and counseling.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

REFERENCES

1. Bryk DJ, Angermeier KW, Klein EA. A case of metastatic prostate cancer to the urethra that resolved after androgen deprivation therapy. *Urology* 2019;129:e4-5.
2. Nabi G, Devinder S, Dogra RN, Dinda AK. Malignant anterior urethral strictures: A rare complication of transurethral resection of malignant prostate. *Int Urol Nephrol* 2002;34:73-4.
3. Green JM, Tang WW, Jensen BW, Orihuela E. Isolated recurrence of ductal prostate cancer to anterior urethra. *Urology* 2006;68:428.e13-5.
4. Zardawi I, Chong P. Metastatic prostate cancer to the urethra masquerading as urothelial carcinoma. *Urol Case Rep* 2016;7:33-6.
5. Bouchelouche K, Choyke PL. Prostate-specific membrane antigen positron emission tomography in prostate cancer: A step toward personalized medicine. *Curr Opin Oncol* 2016;28:216-21.
6. Komeya M, Sahoda T, Sugiura S, Sawada T, Kitami K. A case of metastatic prostate adenocarcinoma to an inguinal lymph node. *Cent European J Urol* 2012;65:96-7.
7. Sabharwal K, Kumar A, Abrari A. Urethral metastasis with neuroendocrine differentiation in a patient with prostate cancer treated with hormone deprivation. *Indian J Urol* 2019;35:75-7.

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