A Case of Metastatic Prostate Cancer to the Urethra That Resolved After Androgen Deprivation Therapy

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An 83 year-old male with Gleason score 4+3 prostatic adenocarcinoma status post brachytherapy developed obstructive voiding symptoms 9 years after brachytherapy. Prostate-specific antigen was 0.67. Cystoscopy noted multiple papillary urethral tumors concerning for primary urethral carcinoma. Immunophenotype of biopsies supported diagnosis of Gleason score 4+4 prostatic adenocarcinoma. Androgen deprivation therapy was started. Cystoscopy performed 4 years later, for microhematuria workup, noted complete resolution of the urethral tumors. We present a patient with little serum Prostate-specific antigen change with urethral prostatic adenocarcinoma metastasis that resolved after androgen deprivation therapy. UROLOGY 129: e4–e5, 2019. © 2019 Elsevier Inc.

A 83-year-old male with Gleason score 4+3 prostatic adenocarcinoma in 5 of 12 biopsy cores with perineural invasion status post brachytherapy presented to clinic 9 years after treatment complaining of obstructive voiding symptoms. Prostate-specific antigen (PSA) was 0.67. Cystoscopy noted multiple papillary tumors from the penile to the membranous urethra. Urethral tumor biopsies were performed in the operating room (Fig. 1). Prostatic urethra and bladder were unremarkable.

Histologic sections showed exophytic papillary neoplasm. Immunostains for NKX-3.1 showed diffuse nuclear immunoreactivity in the neoplastic cells, while GATA-3 was negative. All biopsies had Gleason score 4+4 prostatic adenocarcinoma. Restaging imaging noted pulmonary nodules and bone lesions, concerning for metastasis, without lymphadenopathy. Androgen deprivation therapy with Leuprolide and Bicalutamide was subsequently started. PSA became undetectable. Cystoscopy performed 4 years later, for microhematuria workup, noted complete resolution of all urethral tumors (Fig. 2). Pulmonary and bone metastasis remained stable on follow-up imaging.

Primary and metastatic urethral tumors are extremely rare1-4; urethral metastasis typically portends a poor prognosis.4,5 Our initial concern, given patient presentation, was urethral urothelial cell carcinoma, however, the immunophenotype supported the diagnosis of prostatic adenocarcinoma.6,7 We have described urethral prostatic

Figure 1. Diagnostic cystoscopy with papillary tumor in penile urethra.

Figure 2. Cystoscopy 4 years after initiation of androgen deprivation therapy with absence of tumors in penile urethra.
adenocarcinoma metastasis with little serum PSA production that completely resolved after Androgen deprivation therapy.

References