

EXTENSIVE PROSTATE CARCINOMA WITH HIGH PROSTATE SPECIFIC ANTIGEN VALUE CAUSING URETERIC OBSTRUCTION: CASE REPORT

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SUMMARY – A patient with adenocarcinoma of the prostate metastatic to the left ureter, who had undergone bilateral orchiectomy six months before, is presented. His medical history included transurethral resection of the prostate gland two years before, when the histopathologic examination showed benign prostate hypertrophy. Dissection of the left ureter showed complete inner occlusion by a multinodular tumor.

Key words: *Prostatic neoplasms, complications; Ureteral neoplasms, secondary; Adenocarcinoma, secondary; Prostate specific antigen, blood*

Introduction

Ureteral metastasis is rare and only a few cases of ureteral metastasis from carcinoma of the prostate have been reported¹. Literature review has yielded 11 cases of prostate carcinoma metastasizing to the ureter². We present a case in which a metastasis from adenocarcinoma of the prostate caused inner occlusion of the ureteral lumen.

Case Report

A 70-year-old man presented with left-side pain and hematuria. In June 1998, he had undergone transurethral resection of the prostate, when histopathologic examination revealed benign prostate hypertrophy (BPH). Serum level of prostate specific antigen (PSA) was 10 ng/ml. Histopathologic examination of the tissue obtained by transurethral resection (TUR) indicated BPH. Two years later, the patient presented with a PSA value of 65.9 ng/ml.

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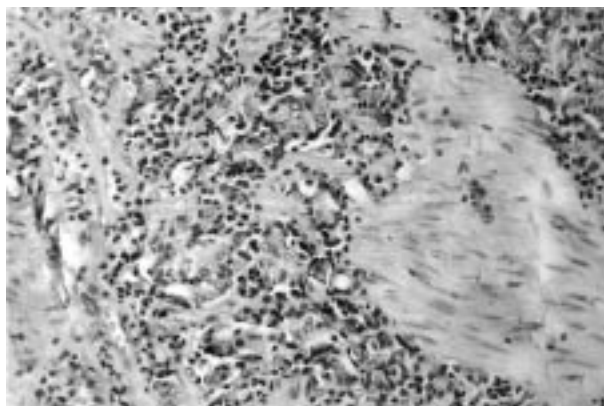
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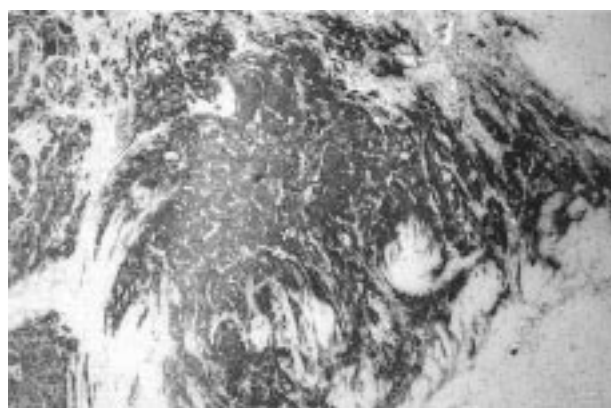
Fig. 1. Left retrograde pyelogram showing multiple marginated filling defects at middle and lower ureter with hydroureter.



A



B



C

Fig. 2.

A) Metastatic prostate adenocarcinoma (HE x40);

B) perineural invasion of tumor cells (HE x200);

C) immunohistochemical positivity for prostate specific antigen (PSA x40).

Digital examination showed a moderately enlarged, hard, fixed prostate suggesting a carcinoma. Histopathologic examination demonstrated adenocarcinoma of the prostate with Gleason score 5 (3+2). Computed tomography (CT) showed diffuse seminal vesicle invasion, whereas bone scan was normal. Bilateral orchiectomy was performed and the patient was administered pure antiandrogens as monotherapy. The recommended dosage of flutamide in monotherapy is 250 mg three times daily *per os*. One month after bilateral orchiectomy, the PSA level decreased from 65.9 ng/ml to 2.10 ml. The patient felt well until October 2001, when he was hospitalized again for severe pain in the left lumbar region, hematuria and fever.

Excretory urography indicated left hydronephrosis, so retrograde ureteral pyelography was performed to reveal multiple smooth marginated filling defects at the middle and lower ureter with hydroureter (Fig. 1). The proximal ureteral lumen was dilated. The left ureter was occluded by a tumor growing through the wall into the lumen. Partial segmental ureterectomy with reanastomosis was performed.

Microscopically, ureteral tumor showed multifocal tubular structures with infiltrating tumor cells resembling those of prostatic tissue (Fig. 2A), with perineural invasion (Fig. 2B). The prostate cancer and metastasis to the ureter responded similarly and very strongly to immunohistochemical stains: positive for cytokeratin and very strongly positive for PSA (Fig. 2C). This combination strongly suggests prostate gland as the site of origin. Histologic examination showed adenocarcinoma of prostatic origin in the mucosal aspect of the ureter. The original prostate cancer and its metastasis to the ureter were morphologically similar.

Discussion

Ureteral metastasis is defined as a malignancy that grows within the ureteral wall and/or within the immediate periureteral lymphatics or tissues without involving the ureter by direct extension or contiguity². Obstruction of the ureter due to adenocarcinoma of the prostate usually results from invasion of the ureter by direct extension of a tumor around the intravesical ureter or by external compression of retroperitoneal lymph nodes or by a mass³. The pathogenesis of this unusual cause of ureteral obstruction is not clear. It is possible that a segmental anatomic distribution of the lymphatic supply to the proximal ureter directed the lymphogenous spread of the tumor more prox-

imally than in the classic presentation of metastatic obstruction³. Follow-up imaging with CT scan at 3 and 6 months showed no evidence for distant metastasis suggestive of prostate cancer.

References

1. JUNG JY, KIM HK, ROH YT, CHOI DY, YOO TK, KIM EK. Long-standing ureteral metastasis secondary to adenocarcinoma of the prostate after bilateral orchiectomy. *J Urol* 2000;164:1298-9.
2. BENEJAM R, CAROLL TJ, LOENING S. Prostate carcinoma metastatic to ureter. *Urology* 1987;29:325-6.
3. ZOLLINGER RW, WISE HA, CLAUSEN KP. An unusual presentation of intrinsic ureteral obstruction secondary to carcinoma of the prostate: case report. *J Urol* 1981;125:132-3.

Sažetak

OPSEŽAN KARCINOM PROSTATE S VISOKOM VRIJEDNOŠĆU ZA PROSTATU SPECIFIČNOG ANTIGENA UZROKOVAO JE OPSTRUKCIJU URETERA: PRIKAZ SLUČAJA

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Opisan je slučaj adenokarcinoma prostate koji je metastazirao u lijevi ureter u bolesnika koji je šest mjeseci ranije podvrgnut obostranoj orhiektomiji. Bolesnik je u anamnezi imao transuretralnu resekciju prostate dvije godine ranije, kad je histopatološki pregled pokazao benignu hipertrofiju prostate. Disekcija lijevog uretera otkrila je potpunu unutarnju okluziju multinodularnim tumorom.

Ključne riječi: Neoplazme prostate, komplikacije; Neoplazme uretera, sekundarne; Adenokarcinom, sekundarni; Antigen specifičan za prostatu, krv