

Prostatic Localization of a Plasmacytoid Urothelial Carcinoma

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Abstract

Case Report

Plasmacytoid urothelial carcinoma is a rare and aggressive variant characterized by diffuse tissue infiltration and a poor prognosis. This case report illustrates a diagnosis at a locally advanced stage with prostatic involvement, requiring early immunohistochemical diagnosis to guide multidisciplinary management.

Keywords: Urothelial carcinoma; Plasmacytoid carcinoma; Bladder; Prostate.

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INTRODUCTION

Plasmacytoid urothelial carcinoma is an extremely rare and aggressive tumor variant, representing approximately 0.3% of all primary bladder cancers [1]. Only about one hundred cases have been described in the literature. Available data suggest that this histological type is aggressive and most often diagnosed at an advanced stage [2]. However, its clinicopathological characteristics are not yet well understood [3]. In this study, we report a new case of plasmacytoid urothelial carcinoma in the prostate.

CASE REPORT

A 65-year-old male taxi driver and chronic smoker [10 pack-years], still active and without any

associated comorbidities, had presented for three months with symptoms of lower urinary tract obstruction complicated by anuria and bilateral lower back pain, without any history of hematuria. Clinical examination revealed a poor general condition and bilateral lumbar tenderness with pelvic pressure upon rectal examination. Laboratory tests were ordered, which revealed renal insufficiency with hyperkalemia, for which he had undergone five sessions of hemodialysis with bilateral percutaneous nephrostomy.

A Computed Tomography urogram was performed on this patient, revealing a prostatic tumor invading the seminal vesicles, the right posterolateral bladder wall, the right ureteral orifice, and the right ureter, causing ipsilateral ureterohydronephrosis with circumferential thickening of the rectal wall [Figure 1].



Figure 1

An abdominopelvic magnetic resonance imaging was performed, showing a poorly defined, suspicious-looking tissue infiltrate encompassing the

pelvic organs and reaching the prostate, with encasement of the pelvic ureters. Irregular thickening of the rectum was also noted [Figure 2].



Figure 2

He underwent a urethroscopy, which revealed two enlarged prostatic cheeks without visualization of the two ureteral orifices. Several superficial-appearing lesions were present and were resected. Histopathological examination of these lesions revealed a high-grade invasive urothelial carcinoma with no evidence of detrusor muscle involvement.

The patient also underwent a prostate biopsy. Histopathological analysis indicated a Gleason 10 [5+5] prostatic adenocarcinoma with infiltrated extraprostatic tissue. Further immunohistochemical analysis showed findings consistent with a prostatic plasmacytoid urothelial carcinoma. It should be noted that the prostate-specific antigen [PSA] level was 0.85 ng/ml, which had been measured previously.

Two months later, the patient developed an intestinal obstruction due to a pelvic lesion and required a sigmoid colostomy for relief. Chemotherapy treatment according to the M-VAC protocol [methotrexate, vinblastine, doxorubicin, and cisplatin] was initiated. He died one year later from a pulmonary embolism.

DISCUSSION

Plasmacytoid urothelial carcinoma is a rare histological subtype of bladder cancer associated with an aggressive clinical presentation [4]. This histological type was first described by Sahin *et al.*, in 1991, and since then, only about one hundred cases have been reported in the literature [2].

According to Mohamed Hicham Benazzouz *et al.* from the Urology Department at Ibn Sina University Hospital in Rabat, two new cases of plasmacytoid urothelial carcinoma were diagnosed and treated. Both patients were men with a mean age of 76 years. Hematuria was the main symptom. Both patients underwent transurethral resection of the bladder. The tumor stage at diagnosis was advanced in both cases [T3N0M0 and T3N1M0, respectively]. Both patients were treated with cystoprostatectomy. Histological analysis of the surgical specimen, supplemented by immunohistochemical analysis, confirmed the diagnosis of plasmacytoid urothelial carcinoma.

T. Sakuma *et al.* reported two cases of plasmacytoid urothelial carcinoma diagnosed at an advanced stage with an infiltrative component, lymph node metastases, and associated prostate adenocarcinoma. Prostate involvement was diagnosed preoperatively in the first case and based on histological findings in the second. Management was individually determined according to the clinical stage, histological grade, and prognosis of each of the two cancers, as well as the efficacy and adverse effects of the treatments initiated [surgery and/or chemotherapy] [3].

CONCLUSION

Plasmacytoid urothelial carcinoma is a rare and aggressive variant of bladder cancer, characterized by infiltrative spread and often delayed diagnosis. Its poor prognosis necessitates early multidisciplinary

management, combining radical surgery and chemotherapy.

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