

Bladder Adenocarcinoma: A Case Report

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ABSTRACT

Background: Bladder adenocarcinoma (AC) is a rare histological variant and research on the best ways to treat it is scant.

Clinical Case: We present the case of a 70-year-old woman who has had hematuria for the past month with no history of serious illness. She visited a urologist, who performed a cystoscopy on her as a result. A urinary bladder adenocarcinoma was discovered in a biopsy. Complete investigations revealed no metastasis. The patient was considered for a partial cystectomy, according to the results of the MRI. She underwent the surgery, which was followed by concurrent chemo-radiotherapy. She underwent multiple reevaluations, and her case was stable after about a year of follow-up.

Conclusions: With the best surgical outcomes, the choice to perform a partial cystectomy was appropriate given the tumor's location. However, a lengthy follow-up is required.

Keywords- Urinary Bladder Neoplasms, Adenocarcinoma, Surgical Pathology.

I. INTRODUCTION

Histologically, bladder cancers can be divided into urothelial and non-urothelial types. The most common type, known as transitional-cell carcinoma, has an incidence of between 90 and 95%. Epithelial and nonepithelial histology are further divisions of non-urothelial histology. Adenocarcinoma, squamous cell carcinoma, and small cell tumors are epithelial in origin ⁽¹⁾.

Only 0.5–2% of cases have the histological variant known as adenocarcinoma (AC). Because of intramural growth, symptoms appear later in the course of the disease, and AC is discovered at an advanced stage, which worsens the prognosis. In the early stages, only 5% of cases are diagnosed ⁽²⁾. There isn't much information in the literature about how to manage it, and there are no established guidelines for care.

There are two types of bladder AC: primary and secondary. Secondary bladder AC can develop directly

from primary bladder AC or from metastasizing from a distant site like the colon, prostate, endometrium, cervix, or breast ⁽³⁾. Although it can be found anywhere in the bladder, it typically arises from the trigone and the posterior wall. It typically manifests as a single lesion ⁽⁴⁾.

Common symptoms like recurrent urinary tract infections, irritable voiding, mucous-like discharge, and hematuria are frequently present in patients. Surgery is the most effective method for treating hematuria, which is the most prevalent symptom in more than 90% of patients ⁽⁵⁾.

Urinary cytology, cystoscopy, and biopsy are diagnostic investigations that are followed by histopathological analysis. Surgery is currently thought to be the most effective treatment for bladder AC because it responds poorly to chemotherapy and radiation ⁽⁶⁾.

Here, we describe a case of an elderly woman with bladder AC who, after a year of follow-up, showed positive oncological results and was ultimately diagnosed as tumor-free.

II. CASE REPORT

Patient information

In March 2022, a female patient in her 70s who had no prior medical history and complained of having hematuria for the previous month was seen at the Urology Outpatient Clinic. She has no family history of bladder tumors, no prior surgical procedures, or any prior clinical history of hematuria.

Clinical findings

A physical examination of the abdomen and genitourinary system was performed. Physical testing produced no conclusive results, and no painful trigger points were identified. No vulvar irritation or palpable abdominal mass was present.

Diagnostic assessment

A biopsy was taken during the cystoscopy, which the consultant urologist had ordered, and it was sent for histopathology sectioning. The bladder's muscular wall was invaded by a moderately differentiated mucinous AC on April 6, 2022, but there were no metastases. The excised biopsy's paraffin blocks were sent back for slide review, confirming the initial diagnosis of bladder AC.

A screening abdominal ultrasound was done on March 26, 2022, and it shows that the pancreas, liver, gall bladder, spleen, and both kidneys are healthy. The bladder was partially filled, with normal wall thickness and a well-defined isoechoic mass protruding from the lateral wall measuring 26 x 26 mm. Its shape was irregular, and it did not move or change location when the patient moved.

On April 18, 2022, a native chest CT scan revealed no abnormalities besides a sizable multinodular goiter with retrosternal extension. Except for the urinary bladder, which showed an increase in the thickness of the left lateral wall reaching a maximum of 13 mm, the abdominal CT scan (native with IV contrast) was normal.

On April 21, 2022, a pelvic MRI revealed a left anterolateral thickening of the bladder wall (48 mm in length and 9 mm in thickness), a well-defined polypoid focal solid lesion posterior to it at the superior wall, 13 mm from the thickened area measuring 10 x 8 mm (hypo intense in T1, hyperintense on T2), and 40 mm from the vesicoureteral junction with no extravesical extension. Additionally, a tiny fibroid measuring 14x14mm was discovered on the uterine posterior wall.

A normal rectum, clear adnexa, no SOL, a normal ischiorectal fossa, no pelvic lymphadenopathy or collections, normal pelvic muscular and bony structures, and no focal lesions are also seen on MRI.

III. THERAPEUTIC INTERVENTIONS

The decision was made that a partial cystectomy might be beneficial for the patient because this is a single tumor that is not at the base. The patient had a tumor removed, and from May 2022 to September 2022, she

underwent 30 sessions of chemo-radiotherapy in addition to 6 weekly sessions of chemotherapy with cisplatin.

IV. FOLLOW-UP AND OUTCOMES

First Visit

The elderly woman was evaluated once more in September 2022. This time, a chest CT scan (native) was performed. The results were normal, except for enlarged thyroid lobes on both sides and numerous isodense nodules, the largest of which was in the left lobe and measured 56x48mm with retrosternal extension. Other findings included cystic changes and foci of calcification.

Apart from two small fibroids (one anterior subserosal measuring 11x11 mm and the second intramural at the posterior wall measuring 15x15 mm), the abdominal CT scan (native with IV contrast) was completely normal.

When urine for cytology was requested, the smear revealed no atypical cells and was hypocellular with only a few crystals on a background of debris, ruling out malignancy.

On September 14, 2022, a second cystoscopy and an excised biopsy were performed. The results showed a normal bladder except for some redness near the previous operation's site on the posterior wall and dome. The histopathology report reveals reactive atypia and mild chronic cystitis as the morphology, with no signs of residual or recurrent cancer.

The patient was doing well and clinically stable, and the treatment had not caused any significant long-term side effects.

Second visit

A second evaluation was conducted in December 2022. The patient had normal tests and was clinically stable. Cystoscopy revealed no growth and was negative. The native chest CT scan was normal; there were no pulmonary or bony metastases, but there were bilateral calcified thyroid nodules. Aside from a slight increase in the anterior bladder wall's thickness, which measured 10mm, the abdominal CT scan was also normal. There were no abdominal focal lesions. The two uterine fibroids (13mm in the anterior wall and 15mm in the posterior wall) on the pelvic MRI were the only abnormal findings.

The results of urine cytology for high-grade urothelial carcinomas were also negative. Blood urea was 41 mg/dL, serum creatinine was 0.64 mg/dL, AST was 17 U/L, and ALT was 60 U/L. No cardiac metastasis is visible on echocardiography, but it shows hypertensive heart disease.

Third visit

The woman was clinically stable and had another evaluation in March 2023. Uterine fibroids and a normal urinary bladder are seen on a pelvic MRI, along with no focal lesions or indications of recurrent cancer. The results of urine cytology for high-grade urothelial carcinomas were also negative. A pelvic CT scan reveals

a normal size and thickness of the bladder, no space-occupying lesion, and signs of recurrence. The results of the abdominal CT scan were normal, but the chest CT scan revealed an enlarged thyroid with nodules and focal calcification.

Except for the lower-limit WBC count, the complete blood picture was normal. Serum creatinine was 0.53 mg/dL, ALT was 11.7 U/L, AST was 14.8 U/L, and total bilirubin was 0.3 mg/dL.

Fourth visit

She is scheduled for another evaluation in June 2023. Clinically, the woman was stable. CT scans of the chest, abdomen, and pelvis reveal nothing abnormal besides thyroid nodules and uterine fibroids without signs of secondary metastasis or focal lesions, particularly in the bladder with a normal bladder wall. The results of urine cytology for high-grade urothelial carcinomas were also negative. The intramural uterine fibroids (16x17 mm) and subserosal uterine fibroids (16x15 mm) are the only focal lesions with evidence of tumor recurrence visible on the pelvic MRI. Otherwise, the urinary bladder wall thickness is normal.

Hypertensive heart disease is also visible on echocardiography. A general urine examination reveals no crystals and only a few pus and red blood cells.

Fifth visit

Scheduled on October 2023

V. DISCUSSION

While CT scanning and MRI offer reliable information to assess the extent of the disease, rule out metastases, and determine whether it may be treatable, ultrasound is helpful as an initial imaging test for the diagnosis of AC. The diagnosis is confirmed by cystoscopy and transurethral resection of the tumor. Primary bladder AC should only be diagnosed after a secondary AC has been ruled out.

Cystoscopy and B-mode ultrasound may not be able to determine the degree of infiltration because the growth pattern of AC cells primarily involves infiltration into the deep muscular layer. As a result, the majority of people with bladder mucinous AC are in stage T2 or T3 when they are diagnosed ⁽⁷⁾.

The lack of definite therapeutic guidelines can be explained by the low frequency of AC and the dearth of substantial studies. Radical cystectomy and pelvic lymph node dissection are the first choices in primary AC. However, partial cystectomy may be advantageous for mobile solitary tumors that are distant from the base ⁽²⁾.

Chemotherapy's role is not yet fully understood. Even so, some cohort studies with high-risk patients (advanced stage, positive margins, positive nodes) have

demonstrated benefits. The foundation for this is 5-fluorouracil and cisplatin ⁽⁸⁾. Additionally, it is unclear how radiotherapy is used in bladder AC. Studies that included both positive nodes and recurrence had better oncological outcomes. Despite this, sufficient research has not been done to prove its advantage in terms of oncological outcomes. It is only advised for local control ⁽⁹⁾.

VI. CONCLUSION

With the best surgical outcomes, the choice to perform a partial cystectomy was appropriate given the tumor's location. Still, a long-term follow-up is necessary. For AC, more detailed management guidelines are needed.

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