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Urinary Bladder Adenocarcinoma: A Rare Case Report

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Abstract

Urinary bladder adenocarcinoma is an uncommon malignancy accounting for a small fraction of bladder cancers. We present a 65-year-old female with primary bladder neck adenocarcinoma, detailing her presentation, diagnostic workup, and treatment course. This case underscores the importance of considering rare histological subtypes in bladder tumors and highlights diagnostic challenges, particularly in distinguishing primary from secondary lesions.

Introduction

Bladder cancer is the most common malignancy of the genitourinary tract, predominantly urothelial carcinoma. Adenocarcinoma of the urinary bladder accounts for only 0.5–2% of cases and may be primary or secondary. Primary adenocarcinoma arises from the bladder urothelium, whereas secondary lesions represent metastases or direct invasion from other organs. Histological variants include enteric-type, mucinous, and signet ring cell types, the latter often associated with a poor prognosis. The pathogenesis remains unclear, though chronic irritation, inflammation, metaplasia, and genetic alterations are implicated.

Case Presentation

A 65-year-old female, nonsmoker, with a history of gastric cancer and diverticulosis, presented with three months of painless gross hematuria, urinary incontinence, and severe urinary symptoms. Physical examination was unremarkable. Urinalysis showed microscopic hematuria; renal function was normal.

Imaging (contrast-enhanced CT and CT urography) revealed bladder wall thickening and a lobulated mass (5.5 × 5 × 6 cm) involving the inferior-posterior wall, extending toward the urethra. Cystoscopy demonstrated a large lesion over the bladder neck. Transurethral resection (TUR-BT) with biopsy revealed adenomatous dysplasia, negative for carcinoma in situ. A repeat TUR-BT in July 2023 confirmed invasive intestinal-type adenocarcinoma, positive for CDX2 and negative for ER, consistent with a primary bladder origin.

Further workup, including PET-CT, gastroscopy, and colonoscopy, excluded secondary gastrointestinal sources. The patient experienced recurrence, confirmed on imaging and repeat TUR-BTs. Due to persistent disease, she underwent radical cystectomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy in April 2024. Histology showed signet ring morphology with enteric-type features, deep muscularis propria invasion, vaginal wall involvement, lymphovascular invasion, and urethral involvement. Postoperative recovery was uneventful.

Discussion

Primary adenocarcinoma of the urinary bladder is rare and often diagnosed at an advanced stage, leading to poor outcomes. Symptoms are nonspecific, commonly painless hematuria, but may include irritative voiding and mucusuria. Diagnosis requires imaging and histopathological confirmation, with immunohistochemistry aiding in distinguishing primary from metastatic disease.

Treatment typically involves radical cystectomy with urinary diversion, often combined with hysterectomy in females when adjacent organ invasion is present. Prognosis remains guarded, with high recurrence and metastasis rates; 5-year survival for advanced disease is under 20%.

Conclusion

This case illustrates the diagnostic and therapeutic challenges of primary bladder adenocarcinoma, particularly in distinguishing it from secondary lesions. Early detection, comprehensive workup, and aggressive management are essential to optimize outcomes.

Declarations

Ethics Approval: Not required for single case reports at our institution.

Consent for Publication: Written informed consent was obtained from the patient.

Data Availability: All data generated or analyzed are included in this article.

Competing Interests: None declared.

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Authors' Contributions: All authors contributed to patient care, manuscript drafting, and final approval.

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