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Sarcomatoid Bladder Tumor: A Rare Variant of Transitional Cell Carcinoma

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Aims: Transitional cell carcinoma (TCC) of the bladder encompasses various tumor variants, with the sarcomatoid subtype being aggressive and of rare incidence. This case report aims to present the clinical characteristics, diagnosis, surgical intervention, and post-operative management of a non-smoking 71-year-old female patient. This patient presented with gross hematuria and was subsequently diagnosed with a sarcomatoid bladder tumor through a series of diagnostic evaluations. The report intends to contribute to the existing literature on this rare tumor variant and shed light on the diagnostic challenges and meticulous surgical and post-operative management in the absence of chemoradiation therapy.

Study Design: This case report presents a single case study of a patient diagnosed with sarcomatoid bladder tumor.

Methodology: The patient was a 71-year-old female with no history of smoking, who presented with gross hematuria. Diagnostic evaluations, including imaging studies and histopathological examinations, were performed to determine the presence of a sarcomatoid bladder tumor. Surgical intervention was conducted to remove the tumor, followed by post-operative management without chemoradiation therapy.

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Results: The case report presents the successful diagnosis and management of a sarcomatoid bladder tumor in the described patient. Detailed clinical, histopathological, and imaging findings are provided, showcasing the challenges and treatment decisions in the absence of chemoradiation. **Conclusion:** This case report underscores the significance of recognizing and managing rare tumor variants like sarcomatoid bladder tumor. It adds to the existing medical literature on this subject and emphasizes the importance of careful diagnostic evaluation and meticulous surgical and post-operative care to achieve favorable outcomes in patients affected by this aggressive variant. Further studies and case reports are warranted to advance our understanding and optimize the management of sarcomatoid bladder tumors.

Keywords: Bladder cancer; transitional cell carcinoma; sarcomatoid variant; radical cystectomy.

1. INTRODUCTION

Sarcomatoid carcinoma of the urinary bladder (SCUB) is a rare and aggressive form of bladder cancer comprising less than 1% of all bladder cancers [1]. One of its characteristics is the presence of an epithelial urothelial component with a predominant spindle cell sarcomatoid contingent [2]. Despite these tumors being widely associated with poor prognosis, the literature remains constrained to case reports and no consensus on an optimal treatment and management exists [1]. However, radical cystectomy with extensive lymph node dissection has shown more consistent results as highlighted by a series of five case reports by Kadouri et al. [2]. Patients who refused surgical treatment by radical cystectomy and opted for chemoradiation therapy have shown more varying outcomes. In a case report by Kumar et al., a 74-year-old male smoker with SCUB refused radical cystectomy and opted for Gemcitabine and Cisplatin chemotherapy [3]. The patient died nine months after the diagnosis. No standard treatment for this disease has been established, but the radical surgical option appears to be the mainstay of treatment. On the other hand, there exists cases where opting for chemoradiation rather than radical cystectomy had achieved complete response to chemoradiation such in the case presented by Wallach et al. [4]. In this case, a 67-year-old woman with bladder carcinoma of sarcomatoid differentiation presented with weeks of hematuria and was advised to undergo radical cystectomy as the traditional treatment but opted for a bladder-preserving chemoradiation therapy as a reasonable alternative [4]. The patient was able to achieve complete response and preserve bladder function. Similar cases where nonsurgical therapy for bladder tumors is done are scarce primarily because these tumors show poor response to primary chemoradiation therapy [4]. Finally, histopathology is crucial in the identification of the tumor where immunohistochemistry must be utilized to establish a final diagnosis of the tumor [5].

2. CASE PRESENTATION

In this case report, we describe a 71-year-old female patient, non smoker, with previous medical history only pertinent for asthma and hypertension, and previous surgical history pertinent for hysterectomy, appendectomy and total knee replacement. She initially presented to a peripheral center with gross hematuria. On lab workup, patient was anemic with a decreased TIBC, and elevated RBCs in her urinalysis. Labs were otherwise normal. An initial ultrasound revealed bilateral renal cortical cysts and a possible bladder tumor. Plain CT KUB was done, confirming the presence of a suspicious mass in the bladder (Fig. 1), and prompting her to present to our care for further management. Otherwise, the patient only complains of a seasonal allergy.

3. RESULTS AND DISCUSSION

Under our care, a cystoscopy confirmed the presence of a bladder tumor invading the left lateral wall of the bladder. Morphologically, tumor had the features of a transitional cell carcinoma, that bore signs of poor differentiation (Fig. 2). TURBT (transurethral resection of bladder tumor) was done. A 4.5x4.5x3cm bladder TCC was revealing, and was high-grade (G4/G4), invading the muscularis propria (pT2). The patient was then prepped for radical cystectomy in addition to ileal conduit (Bricker technique). During surgery, the anterior vaginal wall was also resected, and an extended pelvic lymph node dissection revealed the presence of multiple enlarged iliac nodes detected on CT. Post-operatively, the patient initially suffered from a partial small bowel obstruction, which delayed passage of flatus and was treated via nasogastric tube and GOMCO. Furthermore, urine leak was initially noted through high drain outputs and low urostomy

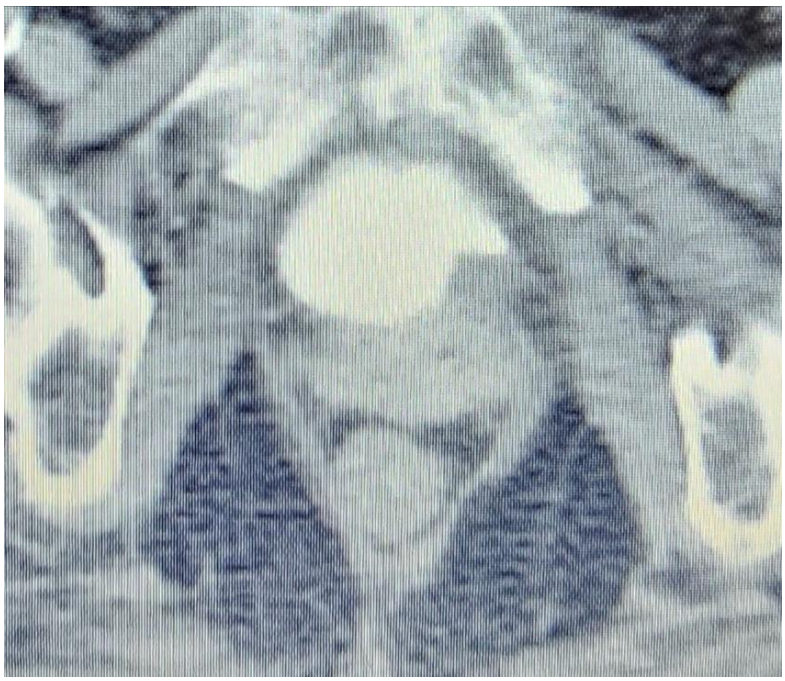

Fig. 1. CT KUB

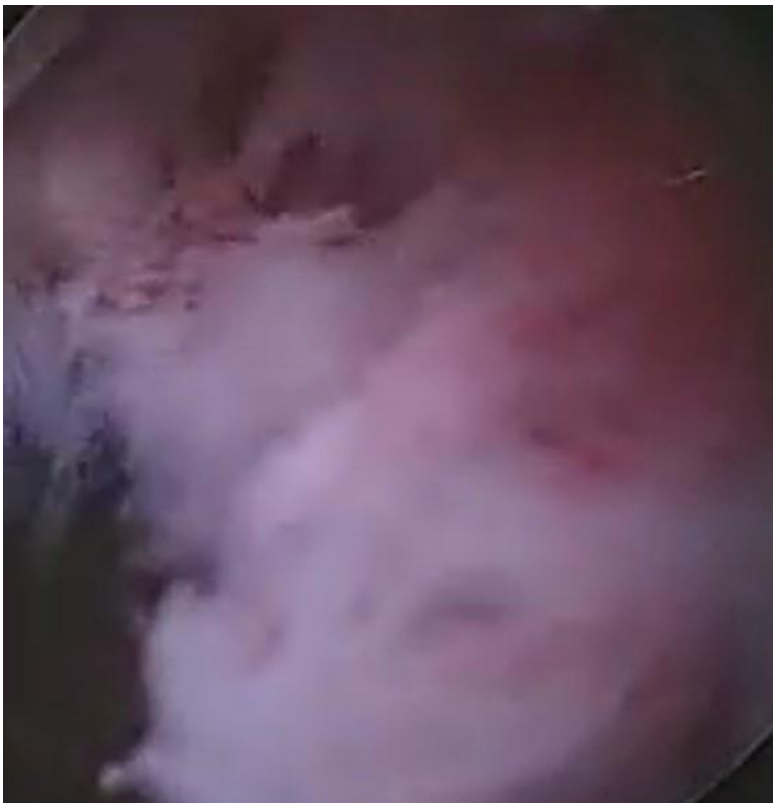

Fig. 2. Cystoscopic image of the bladder during examination

outputs, though was resolved on Day 7 post-op without need for nephrostomies. Finally, the pathology report depicts an 8 x 7 x 4 cm radical cystectomy specimen that shows a high grade invasive urothelial carcinoma (TCC) with sarcomatoid differentiation in 15% of the tumor.

All bladder layers and peri-vesical adipose tissue are invaded, with 5mm tumor involvement in the radial/adipose tissue margin. Additionally, The tumor exhibits lymphovascular permeations and perineural invasion. Both the urethral and ureteral margins are free of neoplasia, and no neoplasia was observed in the examined lymph nodes. There is mild chronic inflammation of the anterior vaginal wall with no evidence of malignancy.

Varying case studies describe multimodality as the ideal treatment for this particular variant of bladder TCC. The common mode of care, however, remains radical cystectomy coupled with extended pelvic lymph node dissection, with or without adjuvant chemotherapy. Indeed, radiotherapy is seldom indicated, due to the known resistance of other types of sarcomas [4]. It therefore seems wisest to start with a surgical approach, followed by adjuvant treatment based on the surgical pathological invasiveness of the disease. That is, a radical cystectomy followed by extensive lymph node dissection. Adjuvant therapy like radiotherapy or chemotherapy is usually given to prevent recurrences [6]. These are mostly indicated in the presence of high grade, margin positivity, lymphnode positivity or extravesical spread [6]. As our patient does not manifest the aforementioned indications, adjuvant therapy was not opted for. However, prognosis in the aforementioned scenarios is worse, making the survival better for those treated with radical cystectomy [7]. Long term follow-up in this patient should be done to assess for any possible recurrence. Patient is recommended to undergo regular follow-up examinations with chest x-ray and abdominal ultrasound every 3 months, computerized tomography of the abdomen every 6 months, and bone scan and excretory urography every 12 months. This comprehensive monitoring protocol will aid in early detection of any potential recurrence and guide appropriate intervention if needed [8].

4. CONCLUSION

Given its aggressive nature and rare variation, SCUB has multiple unsubstantiated guidelines of care, derived mainly from the rarity of the entity in literature. It therefore becomes our responsibility to further study it, and to treat it as seen fit by the many differing patient-related circumstances. Early diagnosis and the utilization of histopathology and immunochemistry allows for better treatment outcomes.

CONSENT

As per international standard or university standard, parental(s) written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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