

# Cervical Lymph Node Metastasis in Urinary Bladder Urothelial Carcinoma: A Case Report

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## ABSTRACT

**Background:** Cervical lymph node metastasis is an unusual manifestation of bladder urothelial carcinoma.

**Case Report:** A 65-year-old man presented with painless intermittent gross hematuria. Imaging showed a 4.5 × 2.1 cm broad-based posterior bladder mass without distant metastasis or hydronephrosis. Complete TURBT in January 2025 demonstrated high-grade urothelial carcinoma, T1. About 90 days later, recurrent hematuria was associated with a 5-cm right supraclavicular swelling. CT showed recurrent bladder tumor with perivesical fat infiltration, pelvic and retroperitoneal lymphadenopathy, and multiple right cervical nodes. The disease was staged cT3N3M1a. Cervical node biopsy showed malignant cells, with positivity for pancytokeratin, uroplakin and GATA3, supporting metastatic urothelial carcinoma. Systemic chemotherapy was planned, but the patient condition deteriorated and died.

**Conclusion:** A new cervical or supraclavicular mass in a patient with bladder cancer warrants prompt evaluation for metastatic disease.

**Keywords:** urothelial carcinoma; bladder cancer; cervical lymph node metastasis; supraclavicular lymphadenopathy; uroplakin; GATA3; metastatic bladder cancer

## INTRODUCTION

Urothelial carcinoma (UC), historically termed transitional cell carcinoma, is the predominant histological type of urinary bladder cancer. It ranges from recurrent non-muscle-invasive tumors to muscle-invasive and metastatic disease. Regional lymphatic spread is clinically important

because nodal involvement increases the risk of systemic dissemination.

Bladder lymphatics mainly drain to obturator and iliac nodes before reaching common iliac and retroperitoneal stations. [1,2]

Metastatic UC may involve lymph nodes, bone, lung and liver, whereas

supradiaphragmatic nodal disease, particularly cervical or supraclavicular involvement, is uncommon. [1,3] Recognizing this pattern is important for staging and treatment planning.

### CASE SUMMARY

A 65-year-old man presented with painless, intermittent episodes of gross hematuria. There was no history in the available case record of symptoms suggesting metastatic disease at the first assessment. Urinalysis confirmed hematuria. Initial cross-sectional imaging demonstrated a solitary broad-based urinary bladder mass measuring  $4.5 \times 2.1$  cm, arising from the right posterior bladder wall (Figure 1). No distant metastasis or hydroureteronephrosis was identified at that time.

In January 2026, the patient underwent transurethral resection of bladder tumor (TURBT). The lesion was completely resected endoscopically. Histopathological examination revealed high-grade transitional cell carcinoma/urothelial carcinoma, reported as T1. Because high-grade T1 disease carries a significant risk of residual or recurrent tumor, a restaging TURBT was planned. [9] The initial imaging with CECT WA and thorax had not shown distant metastatic disease.



Figure 1. Cross Section CT pelvis with UB mass of size  $4.5 \times 2.1$  cm.

Approximately 90 days after the first TURBT, the patient returned with recurrent hematuria. A new swelling was noted in the right supraclavicular region. On examination, the mass measured approximately 5 cm and was described as firm and fluctuant. The appearance of a sizeable cervical/supraclavicular mass in a patient with a recent high-grade bladder tumor raised concern for an unusual metastatic presentation. (Figure 2)



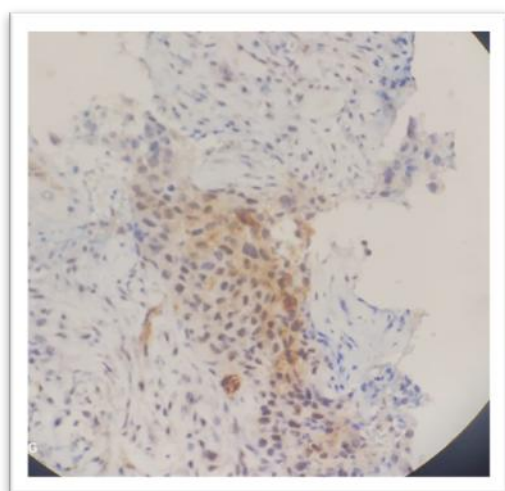
Figure 2. Patient with Right Cervical Lymphadenopathy

Contrast-enhanced CT of the neck showed multiple enlarged right cervical lymph nodes, radiologically suspicious for metastatic involvement (Figure 3). CT urography performed during the same evaluation demonstrated a recurrent bladder mass involving the right posterolateral wall with infiltration of the perivesical fat. Multiple significant pelvic lymph nodes were also present, with additional retroperitoneal nodal disease. The combined findings represented a rapid transition from the initial localized-appearing tumor to extensive nodal and locally invasive disease. The disease was clinically staged as cT3N3M1a, with cervical, pelvic and retroperitoneal lymph node metastases.

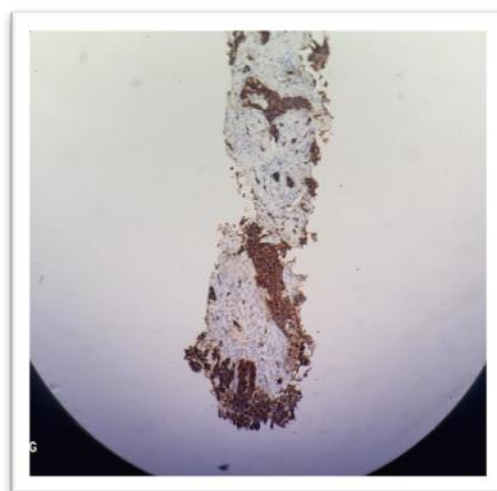


**Figure 3. Multiple Rt Cervical Lymphadenopathy on CT Neck (Yellow arrow)**

Tissue confirmation was obtained. Biopsy of the cervical lymph node demonstrated malignant cells within fibrous tissue. Immunohistochemistry showed positivity for pancytokeratin (CK-P), uroplakin and GATA3. (Figure 4 and Figure 5) Pancytokeratin established epithelial differentiation, while uroplakin and GATA3 supported urothelial differentiation.



**Figure 4. IHC with uroplakin III positive.**



**Figure 5. IHC with Cytokeratin Positive.**

The findings therefore supported metastatic urothelial carcinoma involving the right cervical/supraclavicular lymph nodes. Given the presence of locally invasive bladder disease together with distant nodal metastases, the patient was considered to have advanced metastatic urothelial carcinoma. Systemic chemotherapy was planned. In the present case, however, the patient's general condition deteriorated progressively before effective systemic treatment could be delivered, and he subsequently succumbed to the disease.

## DISCUSSION

Cervical lymph node involvement from a bladder primary is unusual because the bladder has predominantly pelvic lymphatic drainage. Obturator and iliac nodes are major regional stations, followed by

common iliac and retroperitoneal pathways. [1,2] Spread beyond these territories can occur in advanced disease, but supradiaphragmatic nodal involvement remains uncommon.

The rapid progression in this patient is the main clinical feature. The initial tumor was high-grade T1, with no distant metastasis on the first imaging study. Within approximately three months, he developed recurrent bladder tumor, perivesical extension and extensive pelvic, retroperitoneal and cervical nodal disease. This suggests aggressive tumor biology. Lymphangiogenesis, epithelial-mesenchymal transition and interactions within the tumor microenvironment can contribute to metastatic progression, although the specific mechanism cannot be established in an individual case. [1,2]

The route from pelvic disease to cervical nodes is uncertain. Proposed mechanisms include lymphatic crossover, retrograde flow related to obstruction, anatomical variation and hematogenous dissemination with secondary nodal seeding. [3] Extensive retroperitoneal nodal disease may also disturb normal lymphatic drainage. The simultaneous pelvic, retroperitoneal and cervical involvement supports widespread dissemination but does not prove a single route.

Biopsy was important because a cervical mass in a patient with bladder cancer may also represent lymphoma or another primary/metastatic malignancy. GATA3 is useful in assessing urothelial differentiation, while uroplakin is more specific; both should be interpreted with morphology and clinical context. [4,5] In this case, positivity for pancytokeratin, uroplakin and GATA3, together with the known bladder primary and imaging findings, strongly supported metastatic UC.

Published reports describe cervical nodal metastasis from bladder cancer as a rare manifestation of advanced disease. [3] The present case is notable for the short interval between the initial T1 diagnosis and development of extensive distant nodal disease, emphasizing the aggressive course that can occur despite an initially limited radiological assessment.

Systemic therapy is the main treatment for metastatic UC. Platinum-based chemotherapy remains important, while immune checkpoint inhibitors and antibody-drug conjugates have expanded available options. [6,10,11] CheckMate 901 showed improved survival with nivolumab plus gemcitabine-cisplatin compared with chemotherapy alone. [6] EV-302 demonstrated superior outcomes with enfortumab vedotin plus pembrolizumab in untreated advanced UC. [7] Avelumab maintenance improves survival in patients without progression after first-line platinum chemotherapy. [8] Erdafitinib provides another option for selected patients with susceptible FGFR alterations after prior

therapy. [9] Current EAU guidelines incorporate these systemic strategies. [12] In this patient, rapid clinical deterioration prevented effective systemic treatment and he subsequently died. The case reinforces a practical message: a new cervical or supraclavicular swelling in a patient with bladder cancer warrants prompt imaging and tissue diagnosis rather than being assumed to be unrelated pathology.

## CONCLUSION

Cervical lymph node metastasis from urinary bladder urothelial carcinoma is rare but clinically important. In this patient, rapid progression from high-grade T1 disease to locally invasive bladder recurrence with pelvic, retroperitoneal and cervical nodal involvement demonstrated an aggressive metastatic course.

An unexpected cervical or supraclavicular mass in a patient with bladder cancer should prompt appropriate imaging and biopsy. Correlation of histology with a focused immunohistochemical panel, including uroplakin and GATA3, can help establish urothelial origin. Recognition of such atypical metastatic disease is essential for accurate staging, prognosis and selection of systemic therapy.

## Declaration

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**Conflict of Interest:** The authors declare no conflict of interest.

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