



Recurrent Ureteral Obstruction Revealing Malignant Lymphoma in a Young Adult : A Case Report

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ABSTRACT

Introduction

Extranodal presentations of malignant lymphoma represent a significant diagnostic challenge for clinicians, as they frequently mimic more common organ-specific pathologies. While the lymphatic system is the primary origin of these neoplasms, approximately 25% to 40% of Non-Hodgkin Lymphoma (NHL) cases originate in extranodal sites.¹ Genitourinary (GU) tract involvement is particularly rare, accounting for less than 5% of all primary extranodal lymphomas.⁴ Among GU involvements, prostatic and ureteral infiltrations are exceedingly uncommon, often manifesting as non-specific lower urinary tract symptoms (LUTS) or acute renal failure due to obstructive uropathy.⁶ In young adults, the diagnosis of malignant ureteral obstruction (MUO) is often delayed because medical attention initially focuses on metabolic urolithiasis or congenital anatomical anomalies.⁹

Case Illustration

A 27-year-old male presented with a history of a neck tumor excision in 2022, which initially suggested Hodgkin Lymphoma

(HL) or a Giant Cell Soft Tissue Tumor. Due to the patient's refusal of systemic chemotherapy, the disease progressed over three years. In June 2025, he presented with acute-on-chronic kidney injury (AKI/CKD) and bilateral hydronephrosis. Endoscopic evaluation through ureterorenoscopy (URS) revealed no lithiasis but identified significant bilateral ureteral stiffness and strictures. Despite temporary stabilization with double-J (DJ) stents, the patient experienced recurrent obstruction within two months. Subsequent transurethral resection of the prostate (TURP) and ureteral evaluation revealed widespread mural infiltration. Histopathology and immunohistochemistry (IHC) confirmed a malignant tumor suggestive of lymphoma, with leukocyte common antigen (LCA) and CD20 positivity. Further staging identified systemic lymphadenopathy, chylothorax, and sclerotic/lytic spinal metastases at the C1, C4, and TH3 levels. The patient eventually succumbed to complications of uremic encephalopathy and disseminated disease.

Discussion

The diagnostic hallmark of this case was the "stiff ureter" sign observed during endoscopy, indicating direct mural infiltration of neoplastic cells rather than simple extrinsic compression by lymph nodes.⁸ The clinical progression highlights the deceptive nature of prostatic lymphoma, which often presents with normal prostate-specific antigen (PSA) levels, thus evading traditional screening protocols.⁷ The case further explores the "gray zone" between Hodgkin Lymphoma and high-grade B-cell Non-Hodgkin Lymphoma, emphasizing the biological continuum and the potential for transformation in inadequately treated patients.¹⁶ The role of aggressive surgical biopsy and multidisciplinary management in young adults with idiopathic urological

obstruction is critical to prevent the transition from a potentially curable local disease to terminal systemic dissemination.¹⁹

Conclusion

Heightened clinical suspicion for lymphoma must be maintained in young adults presenting with recurrent, rigid ureteral obstruction of unknown etiology. Early tissue sampling via TURP or URS is mandatory to differentiate rare secondary lymphomas from primary urothelial carcinomas. Comprehensive management requires a synergy between urology, nephrology for renal replacement therapy, and hematology-oncology for tailored chemotherapy protocols.¹⁹

Keywords

Extranodal Lymphoma, Secondary Prostatic Lymphoma, Ureteral Mural Infiltration, Malignant Ureteral Obstruction, Young Adult Oncology, CD20-Positive B-cell Lymphoma.

INTRODUCTION

Background

Lymphoma is a heterogeneous group of malignancies arising from the clonal proliferation of lymphocytes at various stages of differentiation. Traditionally classified into Hodgkin Lymphoma (HL) and Non-Hodgkin Lymphoma (NHL), these diseases typically manifest as painless lymphadenopathy within the nodal chains of the neck, axilla, or groin. However, the paradigm of lymphoma as a strictly nodal disease has shifted with the recognition of extranodal lymphoma (ENL), where the primary or secondary site of involvement resides in organs outside the lymph nodes, spleen, or bone marrow.¹ Primary extranodal lymphoma occurs in approximately 25-40% of NHL cases, with the gastrointestinal tract being the most common site, followed by the skin, central nervous system, and bones.¹

Involvement of the genitourinary (GU) tract is remarkably rare, representing less than 5% of all primary extranodal lymphomas.⁴ Within the GU system, the kidney is the most frequent site of involvement, while the bladder, prostate, and ureters are infrequently targeted.¹ Primary ureteral lymphoma is one of the rarest entities in urological oncology, with fewer than 30 cases documented in the English-language literature.⁸ Prostatic lymphoma, while also rare (0.09% of all prostate tumors), poses a significant diagnostic dilemma because its clinical presentation mimics the much more common benign prostatic hyperplasia (BPH) or acinar adenocarcinoma.²⁶

The presentation of lymphoma in the urinary tract is often secondary, occurring as a late-stage manifestation of advanced nodal disease in 10% to 25% of systemic lymphoma cases.³ Despite this frequency, urologists are rarely the first point of contact for these patients unless the disease manifests as acute obstructive uropathy. Malignant ureteral obstruction (MUO) typically results from extrinsic compression by bulky retroperitoneal or pelvic lymphadenopathy.⁹ However, direct mural infiltration—where neoplastic cells invade the adventitia and muscularis of the ureter—creates a functional and mechanical rigidity that is refractory to standard urological management, such as double-J stenting.⁸

Young adults (aged 15-39), categorized as the Adolescent and Young Adult (AYA) oncology population, face unique challenges when diagnosed with lymphoma. Unlike pediatric or geriatric patients, AYA patients often experience significant delays in diagnosis due to the low index of suspicion for malignancy in their age group.²⁰ Symptoms of urinary obstruction in a 27-year-old are more likely to be attributed to urolithiasis, infection, or congenital strictures than to a disseminated hematologic malignancy. Furthermore, the psychosocial barriers in this age group, including perceived health and fear of treatment toxicity, frequently lead to non-compliance or refusal of initial therapies, as seen in the present case.²⁰

Research Objectives

The primary objective of this research report is to provide an exhaustive analysis of a 27-year-old male presenting with recurrent malignant ureteral obstruction that ultimately revealed a disseminated malignant lymphoma. This report aims to:

1. Document the serial progression of clinical, laboratory, and imaging findings that characterize secondary genitourinary lymphoma in a young adult.
2. Highlight the significance of specific endoscopic markers, such as the "stiff ureter" and "bumpy wall" signs, as indicators of transmural neoplastic infiltration.
3. Analyze the diagnostic boundary and potential transformation between Hodgkin Lymphoma and high-grade B-cell Non-Hodgkin Lymphoma.
4. Evaluate the efficacy and limitations of various urological decompression methods (DJ stenting vs. nephrostomy) in the setting of mural malignancy and renal failure.

Research Benefits

This case report provides a comprehensive reference for urologists, oncologists, and pathologists encountering atypical obstructive uropathy. By detailly describing the failures of conventional stenting in the presence of mural disease, it advocates for early transition to definitive diagnostic measures (TURP or ureteral biopsy) when standard treatments fail. Furthermore, the integration of extensive literature reviews provides a conceptual framework for managing patients in the "gray zone" of lymphoma classification, specifically those expressing CD20 in a classic Hodgkin milieu. This report also emphasizes the necessity of multidisciplinary coordination for

AYA patients, who require tailored survivorship and palliative care strategies.

Hypothesis

The underlying hypothesis of this investigation is that the patient's acute-on-chronic renal failure was primarily driven by direct mural infiltration of the ureters and prostatic urethra by a B-cell derived malignant lymphoma. It is further hypothesized that the initial neck tumor from 2022 served as the primary nodal focus, which, due to three years of untreated progression, underwent systemic dissemination and potentially high-grade transformation, leading to the terminal obstructive and metastatic manifestations observed in 2025.

Research Gap

A significant gap exists in the literature regarding the endoscopic presentation of mural ureteral lymphoma. Most existing case series on genitourinary lymphoma focus on imaging findings (CT/MRI) or pathological subtypes, but they lack detailed descriptions of the tactile and visual findings during ureteroscopy.²⁹ Furthermore, there is a scarcity of data concerning the "secondary" involvement of the prostate and ureter in young adults; most prostatic lymphoma literature is centered on primary extranodal cases in men in their 60s and 70s.⁷ This report addresses these gaps by providing a minute-by-minute account of the surgical and clinical evolution in a 27-year-old patient.

Novelty

The novelty of this case is defined by the simultaneous involvement of the neck, superior mediastinum, spine, prostate, bladder, and bilateral ureteral walls in a young adult. Specifically, the visual documentation of the transition from a "normal" ureter to a "nodular, pale, and rigid" structure over a span of two months provides unique insights into the rate of transmural neoplastic progression. The case also highlights the diagnostic complexity of a tumor that bridges the histopathological criteria for both Hodgkin and Non-Hodgkin subtypes, demonstrating strong CD20 positivity in a patient with a previous Hodgkin-suggestive diagnosis.

CASE ILLUSTRATION

Initial Presentation and Anamnesis

In June 2025, a 27-year-old male was admitted to the Emergency Department in a state of severe respiratory distress and uremia. The patient reported a progressive decline in urine output over several days, accompanied by intense bilateral flank pain and orthopnea. His medical history was critical: in 2022, he had undergone an excision of a neck mass (colli tumor). The histopathology report from that time was ambiguous, providing a conclusion of "Hodgkin Lymphoma vs. Giant Cell Soft Tissue Tumor". Despite recommendations for immediate systemic chemotherapy, the patient refused all oncology treatments and was lost to follow-up for three years, during which the neck mass continued to enlarge and new nodes appeared in the axillary and supraclavicular regions.

Physical Examination (June 2025)

Upon admission, the patient's general condition was poor (Keadaan Umum Jelek), and he was in significant distress.

- **Vital Signs:** Height 160 cm, Weight 50 kg, BMI 19.53. Blood pressure 120/80 mmHg, Heart rate 113 bpm (tachycardic), Respiratory rate 23-27 rpm (tachypneic), SPO2 93% on room air.
- **Head and Neck:** Massive, visible masses were noted in the bilateral jugular regions, consisting of approximately 20, mobile, firm, and non-tender lymph nodes. Submental and supraclavicular nodes were also palpable.
- **Thorax:** The patient exhibited severe orthopnea. Auscultation revealed coarse rhonchi and decreased breath sounds in the bilateral lower lobes. Cardiovascular examination noted an irregular S1S2 with sinus tachycardia.
- **Abdomen:** The abdomen was slightly distended with visible collateral venous patterns. Bilateral flank tenderness (Loin tenderness) was present.
- **Extremities:** Pitting edema was present in both lower legs (pretibial edema) and feet, and edema was also noted in the right upper extremity, suggestive of central lymphatic or venous obstruction.



Figure 1. Physical Examination

Laboratory Investigations (June 2025)

The initial laboratory workup revealed catastrophic renal failure and significant inflammatory markers.

Component	10/06/2025	11/06/2025	14/06/2025	20/06/2025	Normal Range
Ureum (mg/dL)	281.7	356	68	182	10 - 50
Creatinine (mg/dL)	15.5	13.46	3.43	6.17	0.7 - 1.3
Hb (g/dL)	6.8	8.0	-	9.6	13 - 17
WBC (/μL)	25,930	1,950	-	22,050	4,000 - 10,000
Albumin (g/dL)	2.56	-	-	2.88	3.5 - 5.0
Potassium (mEq/L)	6.1	6.4	-	4.6	3.5 - 5.1

Table 1: Serial Biochemical and Hematological Evolution in June 2025.

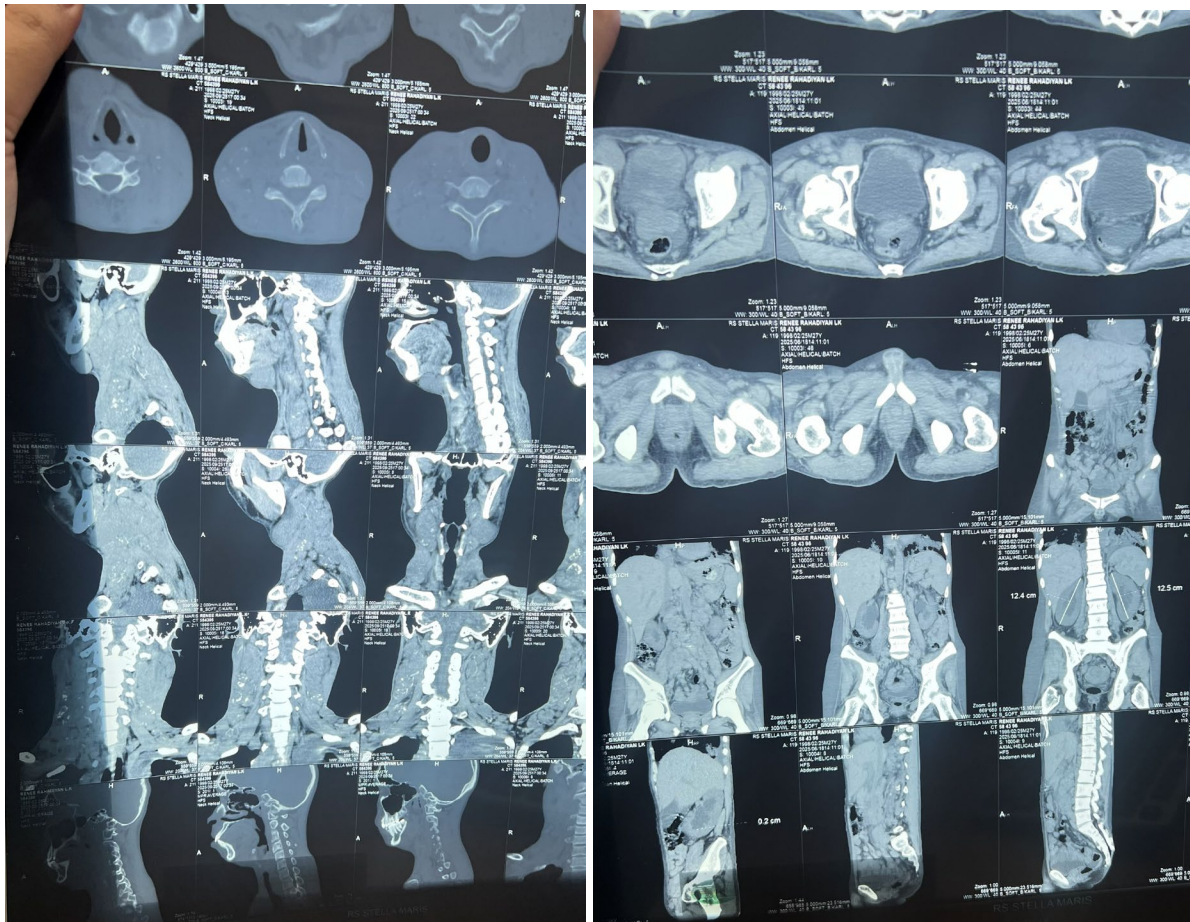
The acute drop in WBC on 11/06/2025 followed by a surge suggests a transient period of bone marrow suppression or "cold sepsis" followed by a leukemoid reaction or inflammatory response. Electrolyte imbalances, particularly hyperkalemia, were life-threatening and required immediate correction.

Initial Imaging Findings (June 2025)

- **Abdominal USG (07/06/2025):** Identified bilateral hydronephrosis (HN) Grade 3-4, suggesting advanced obstructive nephropathy. It also revealed multiple para-aortic and mesenteric lymphadenopathy (suggestive of lymphoma) and bilateral pleural effusion. Liver, spleen, and bladder appeared unremarkable at this initial stage.
- **Thorax X-Ray (11/06/2025):** Confirmed pulmonary edema, bilateral pleural effusion, and cardiomegaly. A subsequent post-CDL film showed pleuropneumonia.
- **MSCT Urologi (18/06/2025):** This study confirmed the absence of ureteral calculi (stones).

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The left ureter was dilated to the S2 level and the right to L5. Extensive lymphadenopathy was visualized in the para-aortic, para-iliac, splenic hilum, and para-rectal spaces.



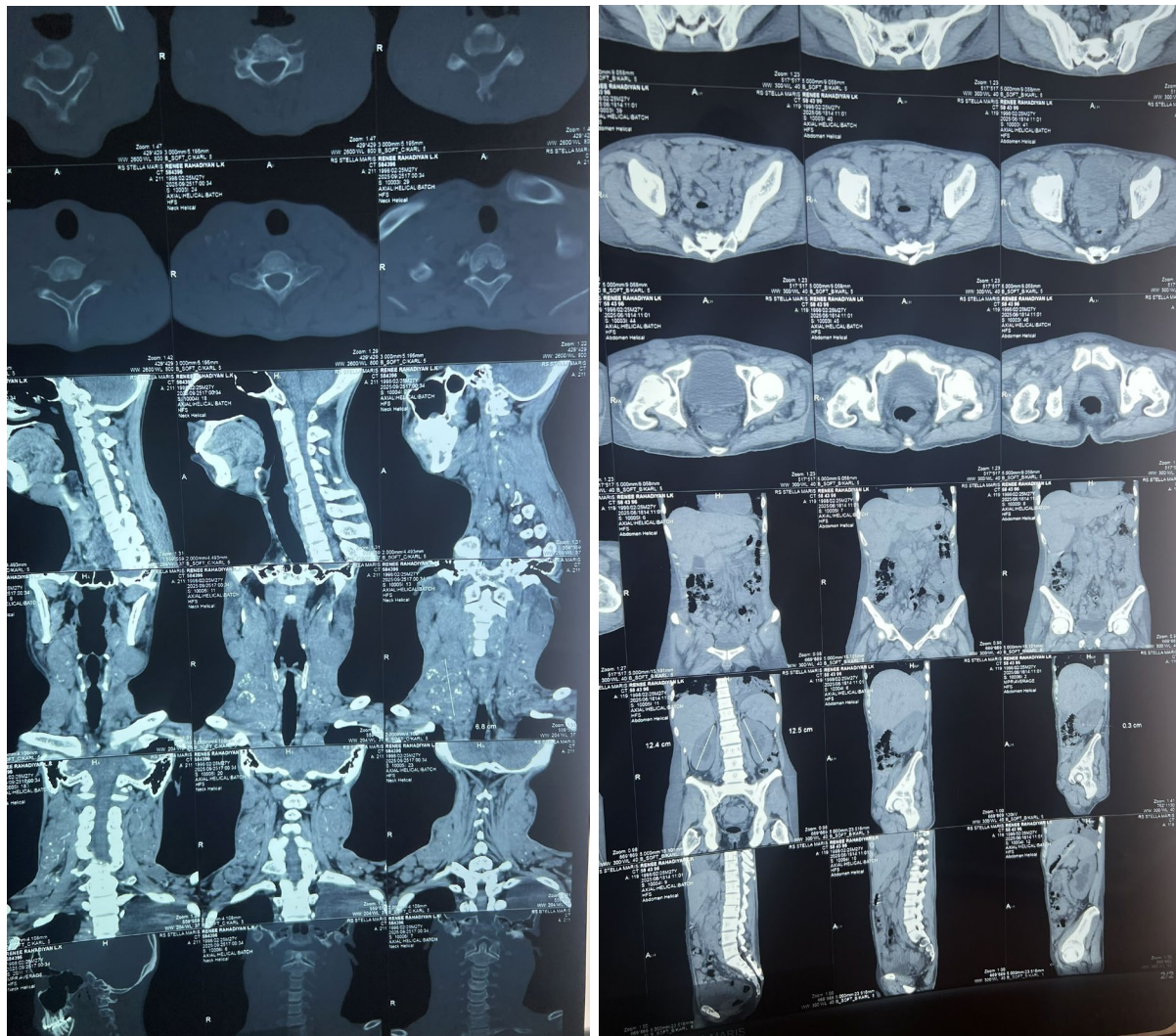


Figure 2. MSCT Urologi

First Surgical Intervention (19/06/2025)

A urology consult led to an emergent URS and dilation to relieve the bilateral obstruction.

- **Procedure:** URS-Dilatasi-DJ Stent Bilateral.
- **Findings:** The urethra and bladder neck appeared normal. Bladder capacity was 250 cc with clear urine and normal-looking mucosa. Both ureteral orifices were in a normal anatomical position. However, upon advancement of the 6F ureterscope, both ureters were noted to be

"very stiff" (ureter sangat kaku). The scope could not be advanced past the middle 1/3 of the ureter. Guidewires were passed with light resistance to the kidneys, and 6F/26cm DJ stents were successfully placed. A dorsal slit was also performed for phimosis.

Post-operatively, the patient showed significant clinical improvement. Urine output increased to 2420 cc/day, and creatinine levels dropped from 15.5 to 3.43 mg/dL within four days.

Recurrence and Diagnostic Pivot (August 2025)

Two months later, the patient returned with recurrent swelling of the legs and progressive dysuria. A planned exchange of the DJ stents was scheduled for August 28, 2025.

Laboratory Findings (28/08/2025):

- WBC: 16,250 / μ L
- Hb: 9.3 g/dL
- PLT: 524,000 / μ L
- Sodium: 134 mmol/L
- Potassium: 2.0 mEq/L (Severe hypokalemia requiring correction).

Second Surgical Intervention (28/08/2025):

- **Procedure:** TUR-Tumor Prostatic Urethra and URS-Reinsertion of DJ Stents.
- **Endoscopic Observations:** Panendoscopy revealed a significant, bulging tumor mass in the right prostatic urethra that had not been present in June. Cystoscopy showed that the bladder mucosa was now pale. Ureteroscopy following DJ stent removal showed that the ureteral walls were pale and "nodular" or "bumpy" (berbenjol). The surgeon suspected a malignancy (M1 tumor?) due to the extreme rigidity and abnormal surface of the ureteral lumen. TUR of the prostatic tumor was performed to provide a tissue diagnosis.

Histopathology Result (28/08/2025):

- **Location:** Prostatic Urethra.
- **Microscopic Description:** Infiltration by sheets of malignant cells.
- **Conclusion:** Malignant Tumor, suggestive of Malignant Lymphoma (CONDONG SUATU LIMFOMA MALIGNA). Differential Diagnosis: Poorly differentiated carcinoma.

Staging and Dissemination (September 2025)

Following the tissue diagnosis, a full staging workup was completed on September 25, 2025.

Neck CT Axial (without contrast):

- **Lymph Nodes:** Extensive lymphadenopathy in the submental, bilateral colli (with calcifications), bilateral supraclavicular, axillary, and superior mediastinal regions.
- **Skeletal System:** Alignment of the cervical spine was normal, but "sclerotic and lytic lesions" were identified on the vertebral bodies of C1, C4, and TH3, strongly suggestive of spinal metastasis.

Terminal Phase (October - December 2025)

On October 2, 2025, the patient's renal function deteriorated to end-stage levels (Creatinine 10.99 mg/dL), and a double-lumen catheter (CDL) was placed for regular hemodialysis (Monday, Wednesday, Friday).

Final Urological Procedure (21/10/2025):

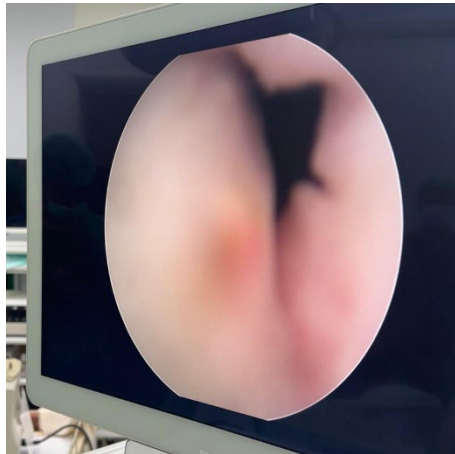
URS and DJ stent replacement were attempted again. The surgeon now observed "multinodular tumors" scattered across the bladder wall. Ureteroscopy confirmed the left ureter was so rigid that a 7F scope could only enter the first 4 cm (distal 1/3). The appearance was pale and bumpy, consistent with transmural invasion.



Bladder



Ureter



Prostate

Figure 3. 3rd URS

Repeat ureteroscopy revealed multiple nodules in the bladder and ureter, as well as a reddish lesion in the prostate corresponding to the previous biopsy site. shown redness after the prostate biopsy before

Final Hospitalization (December 2025):

On December 9, 2025, the patient experienced a sudden loss of consciousness during hemodialysis.

- **Condition:** Sakit berat, Delirium, Hypotension (85/60 mmHg), Tachycardia (114 bpm).
- **Physical Exam:** Massive anasarca edema. Chylous pleural effusion production was 1000 cc from the right chest.
- **Diagnosis:** Uremic Encephalopathy, Stage IV Malignant Lymphoma, Chronic Kidney Disease, Spinal Metastasis.

The patient was admitted to the ICU for stabilization, and permanent nephrostomy was motivated as a palliative measure to relieve the anuric state, as urine production had dropped to < 10 cc through the catheter.

DISCUSSION

Epidemiology of Secondary Genitourinary Lymphoma

The incidence of malignant lymphoma involving the genitourinary tract as a primary site is extremely low, estimated at approximately 0.2% of all extranodal lymphomas.¹ However,

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secondary involvement is much more common, being identified in 10% to 25% of patients with disseminated, advanced-stage NHL.³ In the presented case, the patient's disease likely originated in the cervical lymph nodes in 2022 and, due to a three-year lack of treatment, disseminated to the pelvic organs and skeleton.

For prostatic involvement specifically, the disease represents only 0.1% of all prostatic neoplasms.²⁴ Secondary prostatic lymphoma typically occurs in younger men compared to primary prostatic lymphoma (mean age 62), aligning with our 27-year-old patient.²⁷ The clinical symptoms—urgency, hesitancy, and eventual acute urinary retention—are indistinguishable from BPH or adenocarcinoma, highlighting the necessity of biopsy in atypical presentations.⁶

Pathophysiology of Ureteral Mural Infiltration

The mechanism of ureteral obstruction in lymphoma is traditionally viewed as extrinsic compression by retroperitoneal lymphadenopathy.⁹ This case, however, illustrates the more aggressive "mural infiltration" phenotype.

Type of Ureteral	Mechanism	Clinical Clues
Lymphoma		
Extrinsic Compression	Bulky nodes press against the adventitia.	Ureter is displaced laterally/medially; wall is smooth. ⁹
Mural Infiltration	Malignant cells invade the muscularis/adventitia.	"Stiff ureter" sign; non-dilatable; pale, bumpy mucosa. ⁸
Intraluminal Mass	Focal polypoid growth within the lumen.	"Goblet sign" on imaging; mimics TCC polyp. ⁸

Table 2: Mechanisms of Lymphomatous Ureteral Obstruction.⁸

Mural infiltration, as observed in our patient, creates a "frozen" or "rigid" ureter that lacks the peristaltic ability to move urine even when a stent is present.⁹ The visual findings of a "pale and bumpy" surface are consistent with neoplastic cells replacing the normal smooth muscle and

submucosa of the ureter. This explains the rapid recurrence of renal failure (creatinine rise from 3.43 to 10.99 mg/dL) within two months of stenting. In such cases, the resistance felt during guidewire passage or the inability to advance a ureteroscope are critical "tactile" diagnostic indicators for the surgeon.⁹

Diagnostic Pitfalls: The Role of PSA and Imaging

A significant diagnostic trap in prostatic lymphoma is the often-normal level of prostate-specific antigen (PSA). While prostatic adenocarcinoma typically elevates PSA, non-epithelial tumors like lymphoma do not.⁷ In literature, up to 80% of patients with prostatic lymphoma present with normal PSA levels (< 4 ng/ml), which can lead clinicians to prematurely rule out malignancy.⁷ Furthermore, standard imaging like USG or non-contrast CT may only show non-specific "prostatomegaly" or "hydronephrosis".⁶ Only dynamic observation—noting the *speed* of enlargement—reveals the underlying aggressive nature of the lymphoma.¹⁴ In our patient, the rapid transition from a "normal" bladder in June to "multinodular tumors" and "prostatic bulging" by August was the definitive evidence of an aggressive malignant process.

The Gray Zone: Hodgkin vs. Non-Hodgkin Transformation

The patient's 2022 biopsy result ("Limfoma hodgkin DD Giant Cell Soft Tissue Tumor") and the 2025 result ("Suggestive Malignant Lymphoma") indicate a possible transformation or a diagnostic overlap.

Classic Hodgkin Lymphoma (cHL) and CD20 Positivity

Approximately 95% of HL cases are "Classic" (cHL), characterized by Reed-Sternberg (RS) cells expressing CD30 and CD15.⁴⁰ However, 10% to 40% of cHL cases show CD20 expression.⁴² This is a frequent diagnostic pitfall; pathologists may misinterpret a CD20+ cHL as a B-cell NHL (like DLBCL). The distinguishing feature is the *pattern* of expression: in cHL, CD20 is usually weak and restricted to a minority of cells, whereas in DLBCL, it is strong, diffuse, and homogeneous.⁴¹

High-Grade Transformation (Richter-like)

Given the three-year interval of untreated disease, it is highly probable that a low-grade or classic Hodgkin tumor underwent transformation into a high-grade B-cell lymphoma.⁴⁶

Transformation of cHL into NHL is rare (around 1%) but carries a very poor prognosis.⁴⁸ The aggressive spinal metastases and the rapid invasion of the prostate and ureters in our patient are consistent with a high-grade, transformed B-cell phenotype.²⁷

Skeletal Metastasis: Lytic vs. Sclerotic Patterns

The CT scan finding of "sclerotic and lytic lesions" in the C1, C4, and TH3 vertebrae is unusual.

- **Lytic Lesions:** Characterized by "moth-eaten" bone destruction, these are more common in Non-Hodgkin Lymphoma and multiple myeloma.⁵⁰
- **Sclerotic Lesions:** Also known as "osteoblastic" lesions, these create dense bone areas (e.g., "ivory vertebrae") and are more classically associated with Hodgkin Lymphoma or prostate cancer.⁵⁰

The presence of both patterns (mixed lytic-sclerotic) suggests a highly destructive and metabolically active malignant process.⁵⁰ Mixed bone lesions in HL are typically found in advanced stages (Stage IV) and are often symptomatic, manifesting as severe back pain or pathological fractures.⁴⁹

Management of Malignant Ureteral Obstruction (MUO)

Managing MUO in a patient with renal failure is a balancing act between palliative decompression and systemic therapy.

Decompression Methods

The two primary methods are retrograde ureteral stenting (DJ stent) and percutaneous nephrostomy (PCN).³¹

- **DJ Stents:** Often fail in the presence of mural malignancy because the rigid tumor wall prevents the stent from properly expanding or maintaining a patent lumen.³¹
- **Nephrostomy:** Considered superior for MUO, with a nearly 100% success rate in decompressing the system regardless of the cause of obstruction.¹⁴

In our patient, the reliance on DJ stents was likely the cause of recurrent AKI. Given the surgeon's description of extreme ureteral rigidity and the failure to advance the scope past the distal 1/3, an early transition to permanent bilateral nephrostomies would have been the preferred strategy to stabilize renal function for potential chemotherapy.¹⁴

Chemotherapy in Renal Failure

Disseminated lymphoma is highly sensitive to chemotherapy (CHOP or R-CHOP), which can often resolve the obstruction without surgery.¹⁹ However, many of these drugs are nephrotoxic or require renal clearance. For a patient with a creatinine of 10.99 mg/dL and on hemodialysis, drug dosing must be meticulously adjusted.¹⁹ The collaboration between nephrology and hematology is vital to "time" chemotherapy infusions relative to dialysis sessions to optimize drug exposure while minimizing toxicity.¹⁹

Malignant Pleural Effusion and Chylothorax

The patient's final presentation was complicated by a chylous pleural effusion (chylothorax). Chylothorax in lymphoma is caused by the obstruction or rupture of the thoracic duct by bulky mediastinal lymphadenopathy.⁴⁸ The "milky" appearance of the fluid and the presence of high protein and mononuclear cells (as seen in the patient's fluid analysis: Protein 1.81, Mononuclear 77%) are diagnostic. This is a severe prognostic marker, indicating extensive thoracic disease and contributing to the patient's terminal respiratory failure.⁴⁸

Adolescent and Young Adult (AYA) Oncology Issues

This case perfectly illustrates the "lost generation" of cancer patients. AYA patients often have the best physical reserves but the poorest compliance due to developmental factors.²⁰

- **Diagnostic Delay:** The three-year interval from the neck tumor (2022) to urological failure (2025) highlights how a curable localized disease can progress to terminal stages when untreated.²⁰
- **Survivorship and Palliative Care:** AYA patients face decades of potential life, making treatment toxicities (like cardiac or renal damage) particularly impactful.²⁰

CONCLUSION AND SUGGESTIONS

Case Summary

The diagnostic journey of this 27-year-old male reveals a harrowing progression of untreated lymphoma. What was initially a localized neck mass in 2022 transformed into a disseminated malignancy involving the prostate, bladder, bilateral ureteral walls, and spine by 2025.

The case was characterized by recurrent malignant ureteral obstruction that was refractory to standard stenting due to direct mural infiltration—a finding confirmed through the "stiff ureter" sign and histopathology of the prostatic urethra. Despite life-sustaining hemodialysis, the systemic burden of the disease, manifesting as spinal metastasis and chylothorax, led to a terminal uremic state.

Conclusion

1. **Tissue Diagnosis is Mandatory:** Clinicians must not rely on simple stenting for idiopathic ureteral obstruction in young adults. Recurrent obstruction or the tactile finding of a "rigid" ureter must prompt immediate tissue sampling (TURP, URS biopsy, or nephroureterectomy) to exclude lymphoma.⁸
2. **PSA Inefficacy:** Normal PSA levels do not exclude prostatic malignancy in young adults, as non-epithelial tumors like lymphoma do not produce this antigen.⁷
3. **Visual Endoscopic Markers:** The presence of a "pale, bumpy, and rigid" ureteral wall is a high-fidelity indicator for mural neoplastic infiltration and should be considered a "red flag" for disseminated malignancy.⁸
4. **Systemic Vigilance:** Genitourinary symptoms in patients with a history of nodal disease are almost never isolated; they are markers of systemic dissemination requiring comprehensive staging (CT Neck/Thorax/Abdomen) and spinal evaluation.³⁰

Suggestions

1. **Multidisciplinary Approach:** Management of AYA patients with lymphoma-induced renal failure should involve a "triple-threat" team: Urology (for PCN decompression), Nephrology (for adjusted-dose dialysis), and Hematology-Oncology (for aggressive, GFR-adjusted chemotherapy).¹⁹
2. **Shift to Permanent Decompression:** In cases where mural infiltration is visually confirmed during URS, surgeons should pivot from DJ stenting to permanent percutaneous nephrostomies early in the treatment course to preserve renal reserve for chemotherapy.¹⁴
3. **Expanded IHC Panels:** Pathologists should utilize an expanded immunohistochemistry panel (including CD20, CD30, CD15, LCA, PAX5, and ALK) for all atypical urological

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tumors to navigate the complex "gray zone" between Hodgkin and Non-Hodgkin subtypes.⁴⁰

4. **AYA compliance:** Hospital systems should implement dedicated AYA patient navigators to ensure that young patients with high-risk diagnoses (like lymphoma) do not default from planned treatment pathways.²⁰

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