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Diffuse large B-cell lymphoma presenting as LUTS: Clinical practice points

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ABSTRACT

There is a paucity of management recommendations for patients with aggressive Diffuse large B cell lymphoma (DLBCL) of the bladder. A 57-year-old male patient presented with lower urinary tract symptoms underwent flexible cystoscopy and then bladder tumor biopsy. Through immediate staging CT scan, tumor and bone biopsies he was diagnosed with a 16 cm Stage IVa high-grade DLBCL. He was treated with DA EPOCH with only a partial response and was transitioned to R-ICE. For rarer presentations of bladder cancer during diagnostic cystoscopy there should be no delay in tumor imaging and involving medical oncology in early treatment decision making.

1. Introduction

Diffuse large B-cell lymphoma (DLBCL) is a type of Non-Hodgkin's lymphoma and is the most common lymphoid malignancy in adults. It accounts for approximately 25% of NHL cases. The estimated incidence of Diffuse large B cell lymphoma is 7 per 100,000.[1] Patients with DLBCL generally present with nodal enlargement primarily in the neck and abdomen. The majority of DLBCL arises in lymph nodes however, approximately 30% of DLBCL arise from extra nodal organs. Common sites of extra-nodal DLBCL include craniofacial sites, thyroid, mediastinum, the GI tract, breast, kidney, testis, uterus and bone.[2]

Lymphoma of the bladder is extremely rare comprising just 0.2% of extra nodal lymphomas.[3] Thus, urologists rarely consider this diagnosis when encountering a patient with a bladder mass. We present a case of locally invasive, high grade, diffuse large B-cell lymphoma involving the bladder, in a patient presenting with LUTS.

2. Case report

A 57-year-old Caucasian man presented to his primary care doctor with nocturia every hour, daytime frequency and dysuria. He had increasing abdominal distention for a year but attributed it to inactivity. The patient had no smoking history. Urinalysis was positive for blood and protein. He was referred to Urology.

Physical examination revealed a large non tender abdominal mass. Because of microscopic hematuria and the marked voiding complaints the patient underwent flexible cystoscopy. Upon entering the bladder, a large mass, occupying almost the entirety of the bladder was encountered. He underwent an abdominal and pelvic CT scan (Fig. 1). This revealed a markedly thickened urinary bladder contiguous with a 16 cm soft tissue mass filling the anterior pelvis. There was associated pelvic and bilateral groin lymphadenopathy. Left-sided moderate upper tract dilatation was present with significant urothelial wall thickening and periureteral fat stranding. Chest imaging revealed no chest masses.

During subsequent transurethral resection of bladder mass, obvious mass effect involving much of the lateral and posterior bladder wall was noted. The tumor was solid, and the mucosa appeared normal. Urine and bladder wash was obtained for cytology and a limited resection was performed. Both the cytology and the biopsy material were diagnostic of lymphoma (Fig. 2). The patient subsequently underwent a right iliac crest bone marrow biopsy. The bone marrow biopsy revealed high grade B-cell lymphoma. Flow cytometry showed an abnormal hematolymphoid population with phenotype: CD45 (dim), HLA-Dr, CD10 (very dim), and very dim surface kappa light chain. The patient was diagnosed with Stage IVa high grade B cell lymphoma, NCCN IPI = 4 (High – Intermediate risk); CNS-IPI (Intermediate Risk).

The patient was started on DA-EPOCH (cyclophosphamide, doxorubicin, etoposide, prednisone, vincristine and rituximab) 14 days after the initial flexible cystoscopy. The patient tolerated chemotherapy well. Improvements in urinary frequency and reduction in tumor size was noted on imaging. He received two cycles of DA EPOCH but an interim PET/CT to evaluate response did not indicate complete resolution, thus

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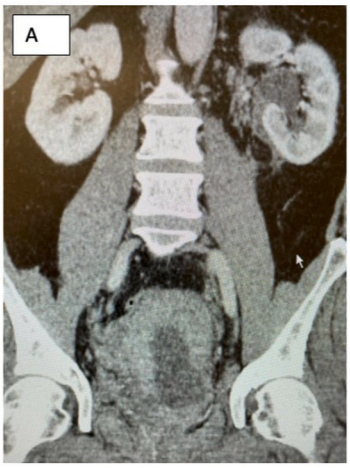


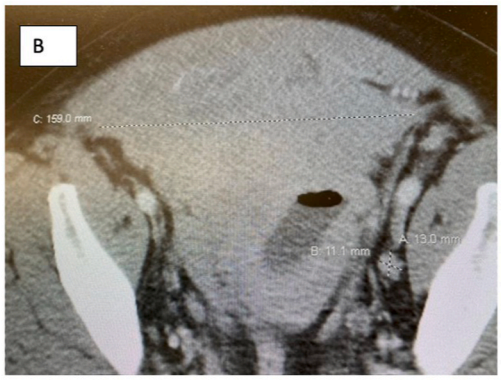
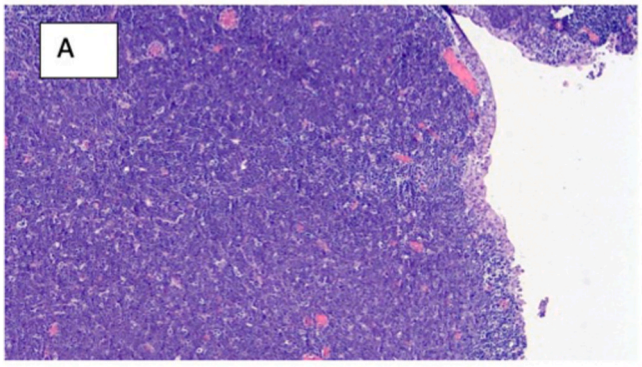


Fig. 1. CT Scan of Bladder Mass
A. Coronal View CT Scan of Bladder Mass. The mass appears to be surrounding the bladder dome and lateral walls with evidence of hydronephrosis of the left ureter. There is upper tract dilatation with ureteral wall thickening
B. Axial View CT scan: Tumor occupying much of the pelvic floor, largest diameter of mass 15.9 cm with bladder diameter measuring 11.1 cm due to compression.



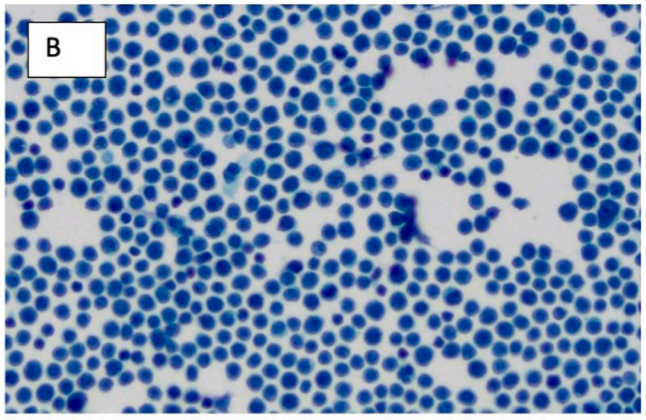


Fig. 2. Histology
A. Biopsy of bladder mass from tumor resection
B. . Tumor Cytology: Abundance of B cells.

prompting salvage R-ICE (carboplatin, etoposide, ifosfamide, and Rituximab). Currently, the patient has started CAR-T cell therapy and is living at home without subsequent progression.

3. Discussion

DLBCL of the bladder is rare. The most common type of primary lymphoma affecting the bladder is low grade lymphoma of the MALT-type.[4] High grade DLBCL make up just 0.03% of extra nodal lymphomas residing in the bladder.[4,5] Furthermore, no case has been reported of a patient presenting with LUTS.[3]

Due to the rarity of DLBCL and lymphoma of the bladder, treatment delay may be common. In the present case, it would be reasonable to assume a that a 57-year-old male with urgency might have BPH. In this instance, however, the finding of microscopic hematuria prompted a cystoscopy allowing prompt detection of the bladder mass.

Our patient underwent a flexible cystoscopy in the office and a CT scan the following day. He then underwent transurethral resection within two days and started chemotherapy two weeks later. Consultation and management with medical oncology should not be delayed after diagnosis of bladder lymphoma. Diagnosis of disease with rarer presentations or of rare pathology may lead to delays in treatment. For patients with rarer presentations of bladder cancer, unusual appearing tumors on cystoscopy, or those with abnormal histology, it is imperative to have patients undergo imaging as soon as possible and to involve medical oncology early. Ultimately, the prognosis of patients affected by DLBCL depends on staging and tumor typing, however treatment delay may hinder management.

4. Conclusion

Aggressive high grade DLBCL of the bladder is an exceedingly rare disease especially with an initial presentation of lower urinary tract symptoms. Recognition of rare presentations of DLBC leading to expedited biopsy, diagnostic imaging and early involvement of medical oncology is imperative for the treatment of DLBCL of the bladder.

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Declaration of competing interest

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References

1. Li Y, Wang Y, Wang Z, Yi D, Ma S. Racial differences in three major NHL subtypes: descriptive epidemiology. *Cancer Epidemiol.* 2015;39:8–13.
2. Ollila TA, Olszewski AJ. Extranodal diffuse large B cell lymphoma: molecular features, prognosis, and risk of central nervous system recurrence. *Curr Treat Options Oncol.* 2018;19:38.

3. Simpson WG, Lopez A, Babbar P, Payne LF. Primary bladder lymphoma, diffuse large B-cell type: case report and literature review of 26 cases. *Urol Ann*. 2015;7:268–272.
4. Kempton CL, Kurtin PJ, Inwards DJ, Wollan P, Bostwick DG. Malignant lymphoma of the bladder: evidence from 36 cases that low-grade lymphoma of the MALT-type is the most common primary bladder lymphoma. *Am J Surg Pathol*. 1997:21.
5. Bates AW, Norton AJ, Baithun SI. Malignant lymphoma of the urinary bladder: a clinicopathological study of 11 cases. *J Clin Pathol*. 2000;53:458–461.