Case Report

Systemic non-Hodgkin's lymphoma initially presenting as a bladder mass

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Abstract Urinary bladder lymphomas are rare lesions which may be primary bladder lymphomas or part of systemic lymphoma with bladder involvement. We report a case of non-Hodgkin's lymphoma (NHL) in a 73-year-old female who presented with bladder tumor which on evaluation revealed NHL with extensive systemic involvement. The management of such an advanced case is discussed here with literature review.

Keywords: Non-Hodgkin's lymphoma Bladder, nonepithelial bladder neoplasms, systemic NHL

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INTRODUCTION

Urinary bladder lymphomas are rare lesions. Primary bladder lymphomas where bladder is the only site of involvement constitutes 0.2% of all lymphomas.[1] Involvement of the bladder as part of systemic lymphoma occurs in 10%–50% of lymphomas, usually in advanced disease.[2] Secondary involvement may occur in the form of recurrence following the treatment of lymphoma. B-cell variety of non-Hodgkin's lymphoma (NHL) accounts for the majority of lymphomas of the bladder.[3] Hematuria is the usual presenting symptom in bladder lymphomas and is usually accompanied with urinary frequency and dysuria.[3] We hereby present a case of B-cell lymphoma of the urinary bladder which presented with bladder as the initial organ of involvement and was later found to be part of systemic lymphoma on positron emission tomography (PET) scan.

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CASE REPORT

A 73-year-old female presented with a history of intermittent lower abdominal pain and dysuria for the past 3 months. She had undergone total abdominal hysterectomy with salpingo-oophorectomy 6 months back and had an uneventful recovery. She had no history of hematuria or fever. Urine culture was positive and was treated with antibiotics. Ultrasonography revealed bilateral hydroureteronephrosis with thickened and irregular bladder wall with a pelvic space occupying lesion infiltrating the bladder. Renal function and liver function tests were within normal limits. The patient underwent a cystoscopy which revealed a bladder tumor involving the trigone and transurethral resection of the tumor was done. Histopathological examination (HPE) revealed sheets of round or ovoid cells with nuclear pleomorphism, detrusor involvement, and lymphovascular invasion [Figure 1]. It

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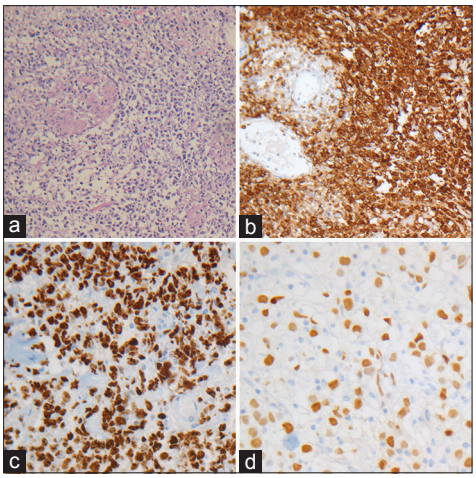

Figure 1: (a) Histopathological examination showing round to oval tumor cells with hyperchromatic nuclei (H and E, ×20). (b) Immunohistochemistry depicting CD20 positivity (×20). (c) Immunohistochemistry depicting Ki67 labeling (×40). (d) Immunohistochemistry depicting Mum-1 positivity (×40)

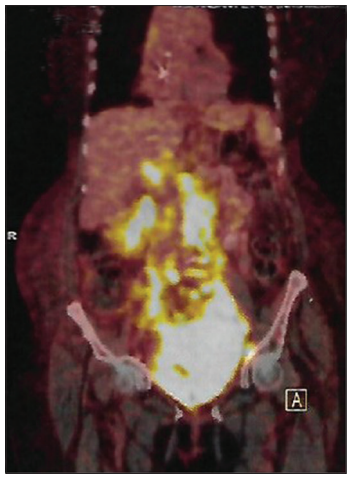

Figure 2: Fluorodeoxyglucose positron emission tomography-computed tomography image depicting metabolically active pelvic mass involving bladder, vagina, and rectum with active lymphoproliferative disease on both sides of the diaphragm with liver, stomach, and lung involvement

was further characterized on immunohistochemistry (IHC) showing CD20, bcl2, bcl6, and MUM-1 positivity and negative for CD10, synaptophysin, and chromogranin. Ki67 labeling index was 90%, and c-myc was expressed by 15% of cells. Thus, the patient was diagnosed as a bladder NHL of diffuse large B-cell type.

A whole body PET-computed tomography (CT) was performed which showed a metabolically active large pelvic mass involving bladder, vagina, and rectum along with metabolically active lymphoproliferative disorder on both sides of the diaphragm and multiple active lesions in the stomach, liver and both lungs [Figure 2]. The patient was initiated on R-CHOP regimen for NHL but died due to multi-organ failure after the first cycle of chemotherapy.

DISCUSSION

Lymphoma comprises 5% of nonurothelial tumors of the lower urinary tract.[1] Primary lymphoma of the bladder or lymphoma presenting with bladder as the initial site of the presentation along with other systemic disease is usually associated with long median survival.[4] On the other hand, recurrent lymphoma is usually associated with poor prognosis. The presenting symptoms include dysuria, hematuria, lower abdominal pain, and back pain as well as urinary frequency. The patients may also present with hydronephrosis. A history of chronic cystitis can usually be elicited, but the causal relationship is not established.[5]

Primary lymphoma of the urinary bladder is usually a diagnosis of exclusion. The diagnosis is made in the wake of absence of any other nodal or extranodal site of involvement including a negative bone marrow biopsy and a CT scan.[6] Bladder lymphoma usually presents as a trigone or lateral bladder wall mass. Cystoscopic findings usually are noncontributory toward diagnosis. The lesions are usually diagnosed as urothelial carcinoma, but after HPE and IHC, a diagnosis of lymphoma is established.[7] Mucosa-associated lymphoid tissue (MALT) lymphoma and diffuse large B-cell lymphoma comprise the majority of primary bladder lymphomas with MALT lymphoma contributing to over 70% of bladder lymphomas.[8]

PET with fluorodeoxyglucose (FDG) is increasingly being used for evaluation of thoracic and abdominopelvic malignancies in conjugation with CT scan.[9] FDG-PET utilizes the high glycolytic rate of malignant tissues, both primary and metastatic, for their detection. FDG-PET has been found to be superior to CT for assessment of disease extension as well as for primary staging in Hodgkin's and NHL. This technique is reported to have specificity between 99% and 100% and sensitivity of 82%–99%.[10]

The occurrence of secondary involvement of the bladder by systemic lymphoma is more common than primary involvement. Autopsy has shown bladder involvement in systemic NHL in 10%–20% cases.[1] In these patients, the mean duration between diagnosis of lymphoma and diagnosis of bladder involvement is 4.5 years (0.3–12 years). It is quite rare for the bladder to be the initial site of presentation in systemic NHL as in the index case. Most common presentation is with cervical lymphadenopathy. Another study based on autopsy of lymphoma patients revealed bladder involvement in 13% cases. Bladder involvement was always a secondary

event more common in NHL than Hodgkin's lymphoma. Bladder involvement usually occurred as direct infiltration from pelvic foci as well as from discrete metastatic lesions.[11] Bladder involvement by systemic lymphoma is usually a late event associated with pelvic mass formation and poor prognosis.[4]

Systemic NHL is usually treated with a chemotherapy regimen including cyclophosphamide, doxorubicin, vincristine, and prednisolone with a monoclonal antibody rituximab (R-CHOP). It is usually administered for 3–6 cycles at 21-day interval depending on the stage of the disease.

Our index case also presented with features which on initial evaluation mimicked urothelial carcinoma, but on further evaluation with FDG-PET after transurethral resection of bladder tumor and HPE and IHC, it was diagnosed as a case of systemic NHL with initial presentation attributable to bladder involvement.

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Conflicts of interest
There are no conflicts of interest.

REFERENCES

1. Bates AW, Norton AJ, Baithun SI. Malignant lymphoma of the urinary bladder: A clinicopathological study of 11 cases. J Clin Pathol 2000;53:458-61.
2. Aigen AB, Phillips M. Primary malignant lymphoma of urinary bladder. Urology 1986;28:235-7.
3. Heaney JA, Delellis RA, Rudders RA. Non-Hodgkin lymphoma arising in lower urinary tract. Urology 1985;25:479-84.
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;21:1324-33.
5. Al-Maghrabi J, Kamel-Reid S, Jewett M, Gospodarowicz M, Wells W, Banerjee D. Primary low-grade B-cell lymphoma of mucosa-associated lymphoid tissue type arising in the urinary bladder: Report of 4 cases with molecular genetic analysis. Arch Pathol Lab Med 2001;125:332-6.
6. Evans DA, Moore AT. The first case of vesico-vaginal fistula in a patient with primary lymphoma of the bladder – A case report. J Med Case Rep 2007;1:105.
7. Cheung G, Sahai A, Billia M, Dasgupta P, Khan MS. Recent advances in the diagnosis and treatment of bladder cancer. BMC Med 2013;11:13.
8. Coskun U, Günel N, Eroglu A, Biri H, Poyraz A, Gurocak S, *et al.* Primary high grade malignant lymphoma of bladder. Urol Oncol 2002;7:181-3.
9. Subhas N, Patel PV, Pannu HK, Jacene HA, Fishman EK, Wahl RL. Imaging of pelvic malignancies with in-line FDG PET-CT: Case examples and common pitfalls of FDG PET. Radiographics 2005;25:1031-43.
10. Schiepers C, Filmont JE, Czernin J. PET for staging of Hodgkin's disease and non-Hodgkin's lymphoma. Eur J Nucl Med Mol Imaging 2003;30 Suppl 1:S82-8.
11. Sufrin G, Keogh B, Moore RH, Murphy GP. Secondary involvement of the bladder in malignant lymphoma. J Urol 1977;118:251-3.