Primary Diffuse Large B cell Lymphoma of Urinary Bladder

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Abstract- Primary diffuse large lymphoma of urinary bladder is a rare extra nodal lymphoma with very few reported cases in literature. Amongst the reported cases of primary urinary bladder lymphoma, low grade lymphoma of MALT is the commonest, while amongst the high grade, diffuse large B cell lymphoma is the commonest. We report a case of elderly lady presenting with pain abdomen and dysuria, which upon investigation diagnosed as primary diffuse large B cell lymphoma of urinary bladder.

Index Terms- Bladder lymphoma, diffuse large lymphoma, primary bladder lymphoma

I. Introduction

Primary malignant lymphoma of bladder is a rare disease, accounting for only 0.2% of all cases of extranodal lymphoma.[1]A large proportion of primary lymphomas of the bladder are lymphomas of mucosa-associated lymphoid tissue (MALT).[2] High grade tumors are rarer, making up 20% of the reported cases with the most common type being diffuse large B-cell lymphoma (DLBCL).[3]

High grade tumors need to be distinguished from low grade as treatment modalities differ for both subtypes.

We report one such rare case of diffuse large B cell lymphoma of urinary bladder.

II. Case report

A 72year old lady presented with pain in the lower abdomen and pain during passing urine of 2months duration. There was h/o intermittent low grade fever and loss of appetite. Examination was unremarkable. Urine microscopy showed plenty of RBC and few pus cells and urine protein was present. Urine culture showed E.coli. She was started on oral antibiotics elsewhere suspecting urinary tract infection.

As there was no relief of symptoms, an ultrasound abdomen was performed which showed bladder thickening with mass. CECT abdomen was done which was suggestive of mass lesion in the bladder base, neck with perivesicular extension and involvement of adjacent uterus, cervix, vagina and few right inguinal lymphadenopathy, bilateral hydroureteronephrosis secondary to infiltration of the growth in vesicoureteric junction and small focal lesion in the upper pole of left kidney with extension into adjacent perinephric space (figure 1).

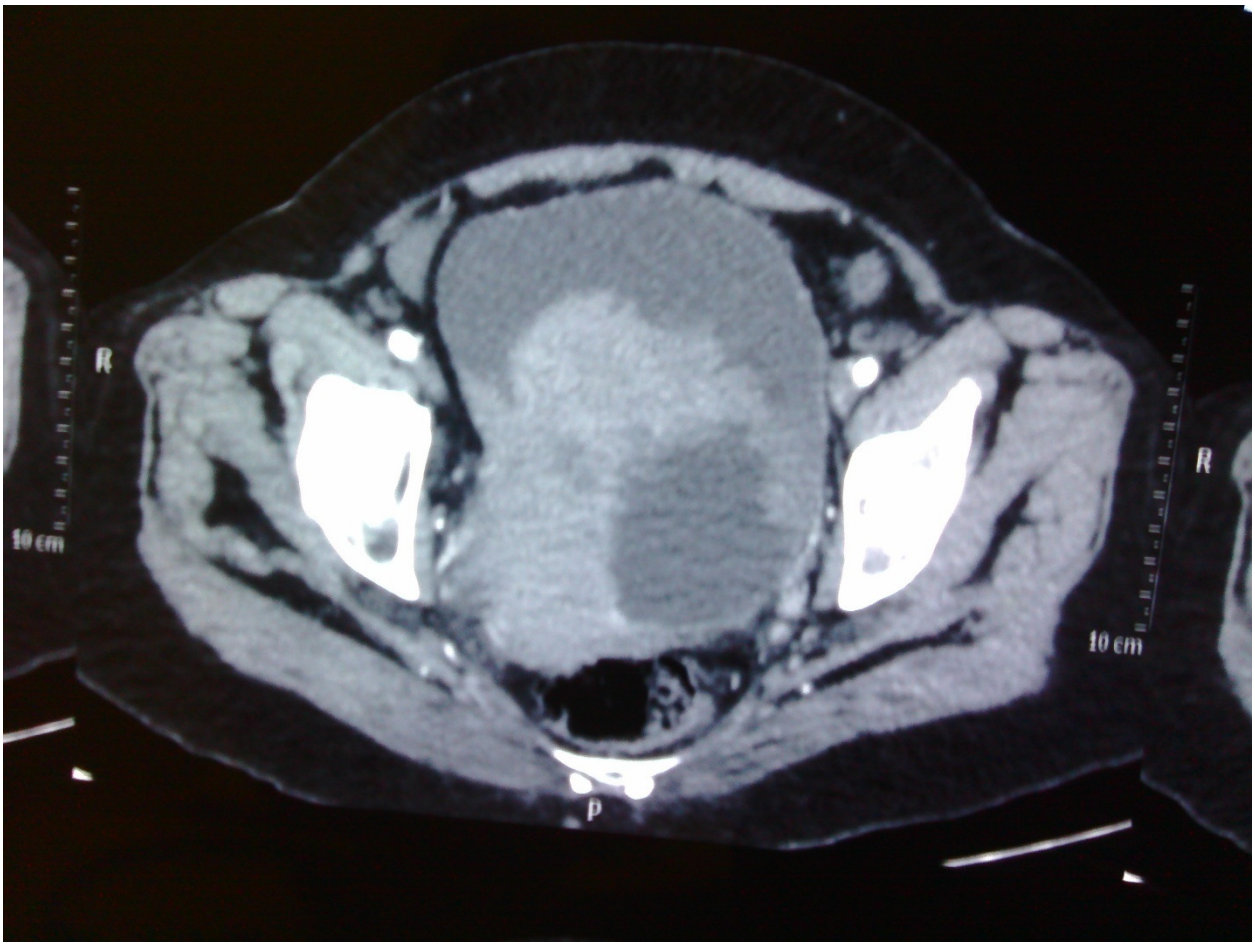

Figure1: CECT abdomen showing mass lesion in the bladder base, neck with central necrosis and perivesicular extension

Cystoscopic biopsy was done. HPE showed highly cellular tumor with infiltrates consisting of monomorphic population of round cells admixed with some small lymphocytes. They contain scant to moderate amount of vacuolated cytoplasm and round nucleus with dispersed chromatin and small nucleolus (figures 2 and 3). IHC showed diffuse positivity of CD20 and focal positivity of CD3. Features consistent with diffuse large B cell lymphoma.

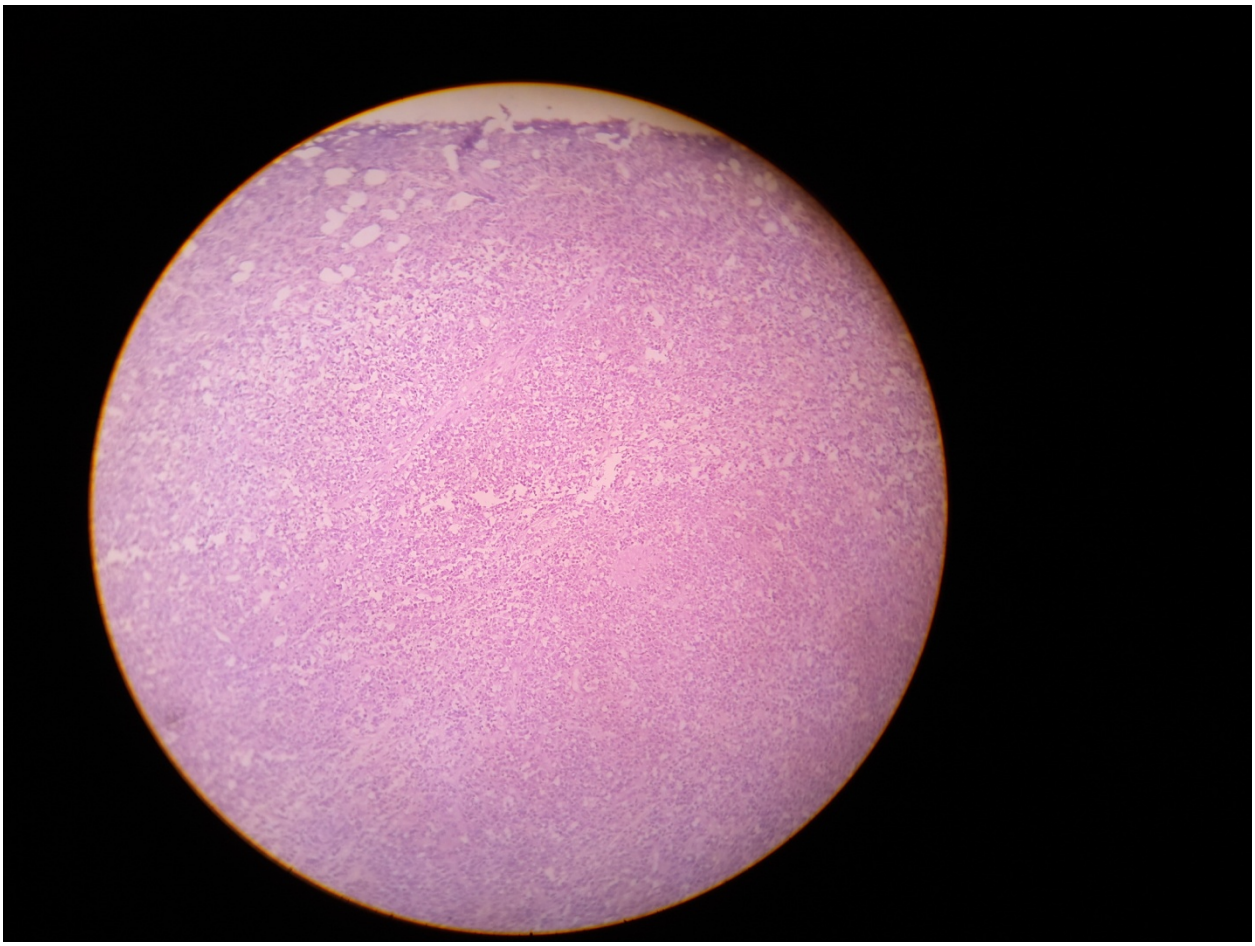

Figure 2: Low power view shows diffuse sheets of atypical lymphoid cells with scant amount of cytoplasm admixed with histiocytes, plasma cells.

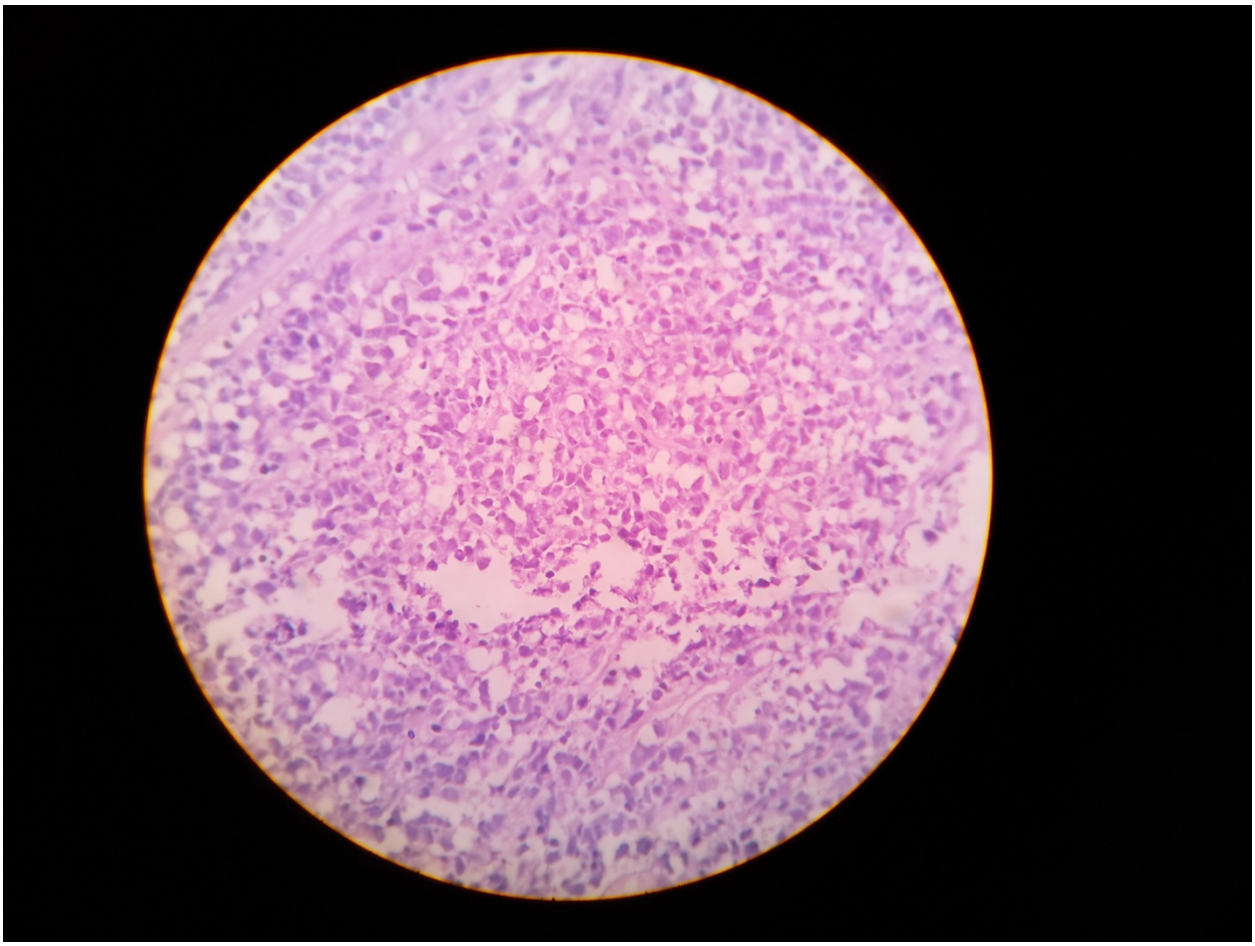

Figure 3: High power shows diffuse sheets of atypical lymphoid cells with occassional atypical mitotic figures

Further investigations were done for metastatic workup. CECT chest was normal. Bone marrow aspiration and biopsy were normal. Complete blood picture, liver and renal function were normal except for anemia with hemoglobin of 10gm/dl.

She was finally staged as stage 4 E, B Diffuse large B cell Lymphoma. She was started on RCHOP chemotherapy. Re evaluation with CECT abdomen after 3 cycles showed complete disappearance of bladder mass. When she was due for cycle 4 she developed massive myocardial infarction. She was revived and after recovery she was restarted on chemotherapy without doxorubicin. She now due for cycle 6 chemotherapy and is doing well.

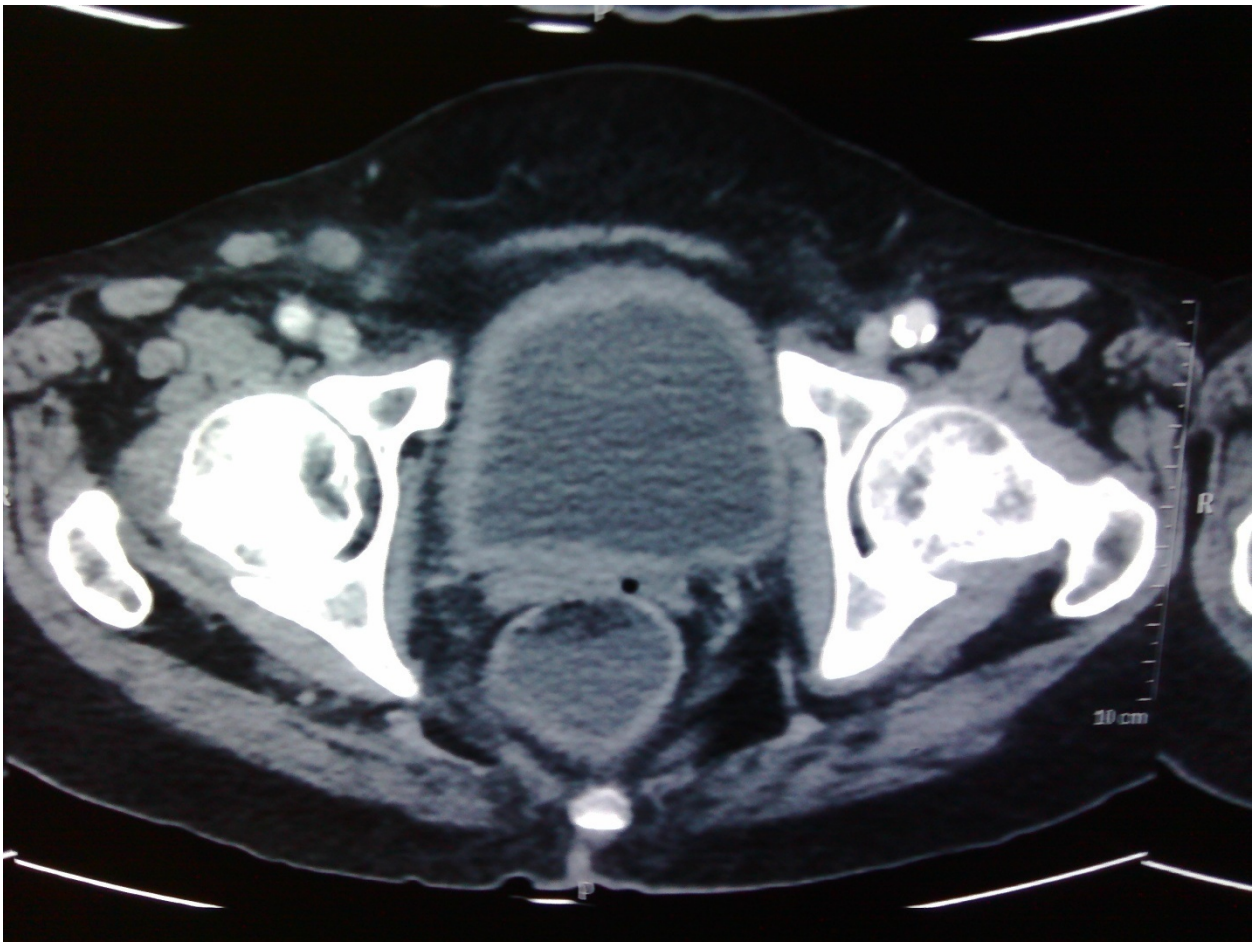

Figure 4: CT abdomen showing bladder wall thickening

III. DISCUSSION

Malignant lymphoma of the urinary bladder can be classified into one of the three different clinical groups as follows [4]:

(i) Primary lymphoma localized to the bladder;

(ii) Lymphoma presenting in the bladder as the first sign of disseminated disease (nonlocalized lymphoma);

(iii) Recurrent urinary bladder involvement by lymphoma in patients with a history of malignant lymphoma (secondary lymphoma).

The incidence of secondary involvement of the urinary bladder in lymphoma is about 13%, [5] whereas primary malignant lymphoma of the urinary bladder is an uncommon neoplasm.[6]It accounts for 0.2% of all cases of extra nodal lymphoma in North America.[1]

High grade primary bladder lymphoma represents roughly 20% of the 0.2% of extranodal lymphomas residing in the bladder and DLBCL is the most common type.[3]

According to Isaacson[7] primary high grade B cell extra nodal lymphomas that arise from sites where low grade MALT-type lymphomas occur, are themselves MALT lymphomas. There are cases in literature that suggest transformation from low grade to high grade MALT.[8,9]However, it is not known what proportion of MALT lymphomas of the bladder undergo transformation to high grade lymphoma.

Since there is no naturally occurring lymphoid tissue in the bladder, it is possible that preexisting chronic inflammation can induce acquired MALT. Simpson et al[10] found that 22% of patients had a history of chronic cystitis, but in most cases convincing histologic evidence of long-standing inflammation was lacking. Ohsawa et al[11] noted in his review that 20% of patients with primary lymphoma of the urinary bladder had a history of chronic cystitis. Our patient did not have history of chronic cystitis but Escherichia coli was isolated from urine culture. Escherichia coli infection was found in 3patients in the sudy by Jaudah Al-Maghrabi et al.[12]

According to Ohsawa et al, [11] the age of patients at diagnosis ranged from 20 to 85 years (median age 64 years), with a striking female predominance (male-female ratio, 1–1.8:3). Female preponderance might be related to higher incidence of urinary tract infection in females.

The most common presenting symptoms were hematuria followed by dysuria or nocturia. [11]Our patient presented with lower abdominal pain and dysuria mimicking urinary tract infection.

Low grade lymphomas confined to bladder are treated with TURBT alone or with radiotherapy. [13, 14] Chemotherapy with CHOP alone or CHOP with Rituximab has been tried in high

grade lymphomas with good response. [15] In view of CD 20 positivity, our patient was given R CHOP with complete resolution of lesions in 3 cycles.

According to the available literature so far, bladder lymphoma has good prognosis. [16]Parton et al [17] reviewed 22 cases in literature and reported survival rate of 68% at one year and 27% at 5years. Gutman et al [18] reported more favourable survival rates of 73% at one year and 64% at 5 years. Better survival rates quoted by latter might be due to higher number of low grade MALT lymphomas in his series and also reflect improved treatment modalities in recent times.

IV. Conclusions

Lymphoma should be considered as a possible diagnosis in patients presenting with bladder mass. Appropriate therapy according to grade and histology gives excellent response and good overall survival.

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