



**Acute Urinary Retention as the Initial Presentation of Disseminated Diffuse
Large B Cell Lymphoma with Prostate Involvement**

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Abstract

Prostate involvement by non-Hodgkins lymphoma is rare and may clinically mimic benign prostatic hyperplasia or adenocarcinoma. We report a case of disseminated diffuse large B cell lymphoma presenting with acute urinary retention on a middle age male, requiring catheterization. Serum prostate specific antigen was within normal limits. USG abdomen revealed grossly enlarged prostate gland protruding into base of bladder- approximately measuring 190 cc. when a relatively low PSA (0.46) for a 190cc sized gland led to clinical suspicion and patient underwent MRI scanning. On MRI, revealed a bulky prostate with mild infiltration to right pelvic floor muscles and metabolically active supra and infra diaphragmatic lymphadenopathy with extra nodal gastric involvement. Histopathology of prostatic tissue showed diffuse infiltration by atypical lymphoid cells and immunohistochemistry confirmed diffuse large B cell lymphoma. Bone marrow examination demonstrated trilineage haematopoiesis. The patient was referred for systemic chemotherapy. This case underscores the need to consider lymphoma in patients with acute urinary retention and normal PSA, as prompt recognition significantly alters management and prognosis.

Keywords: *Acute urinary retention, Prostate lymphoma, Diffuse large B cell lymphoma, Extra nodal lymphoma, Lower urinary tract symptoms, Normal PSA, Disseminated lymphoma.*

Introduction

Diffuse large B cell lymphoma (DLBCL) is the most common subtype of non- Hodgkin lymphoma and frequently presents with nodal disease. Extranodal involvement is well recognized; however , prostatic involvement is uncommon and rarely manifest as acute urinary retention. Lymphomatous involvement of the prostate may clinically mimic benign prostatic hyperplasia or carcinoma prostate, often leading to diagnostic challenges, particularly in the presence of normal prostate specific antigen levels.

We report a case of disseminated DLBCL presenting initially with acute urinary retention secondary to prostatic involvement. Subsequent PET-CT scan revealed supra and infra diaphragmatic nodal disease with additional extranodal gastric involvement, confirming systemic lymphoma.

This can highlight the importance of considering hematological malignancies in the differential diagnosis of atypical prostate enlargement with normal PSA levels.

Case History

A 65 year old male with known CAD, prior CVA, type 2 Diabetes mellitus, dyslipidaemia and hypertension presented to emergency department with acute urinary retention preceded by lower urinary tract symptoms for 2 weeks. Patient was catheterized and around 1 liter of urine drained. There was no history of fever, night sweats, weight loss or prior malignancy. Physical examination revealed a distended bladder. Digital rectal examination showed diffuse enlargement of the prostate without discrete nodularity.

Serum prostate specific antigen (0.46) was within normal limits. Routine hematological investigations were unremarkable.

MRI prostate was taken and showed -significant asymmetric enlargement of the right side of the prostate gland with loss of zonal demarcation, marked diffusion restriction, heterogenous enhancement , indentation of the bladder base and mild infiltration of the right pelvic floor muscles associated with right internal iliac and left inguinal lymphadenopathy- is suggestive of neoplastic etiology (FIG: 1A,1B,1C).

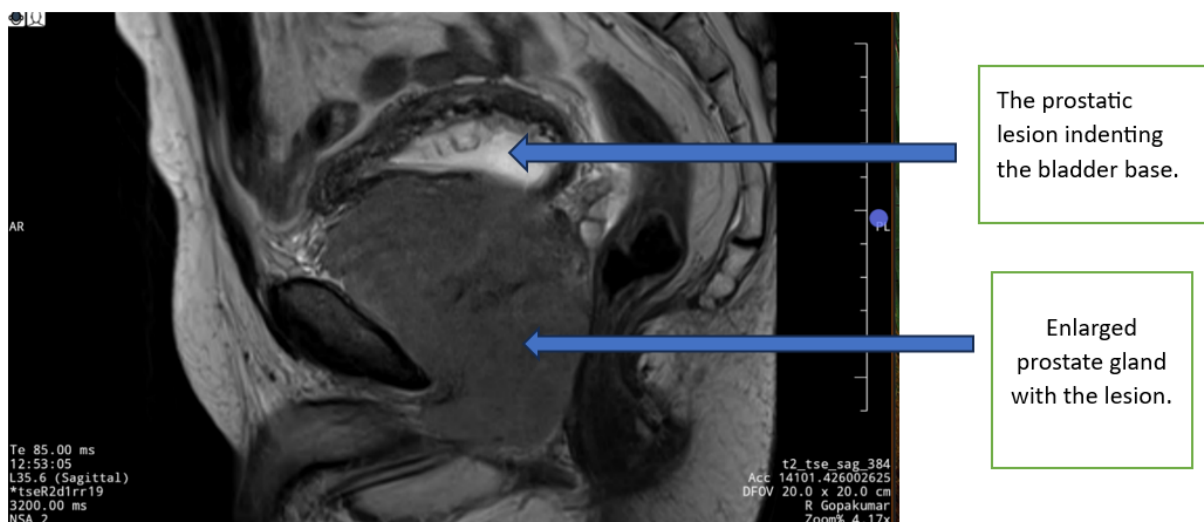


FIG 1A: MRI -T2 sagittal image

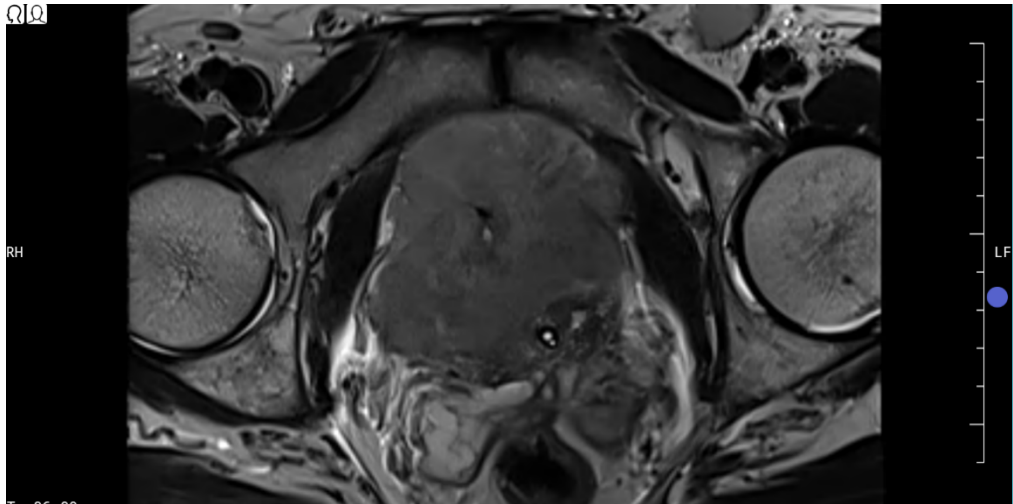


FIG : 1B : (T2 – MRI)- prostate gland is significantly and asymmetrically enlarged , predominantly involving the right side and appears diffusely T2 hypointense with loss of normal zonal demarcation.

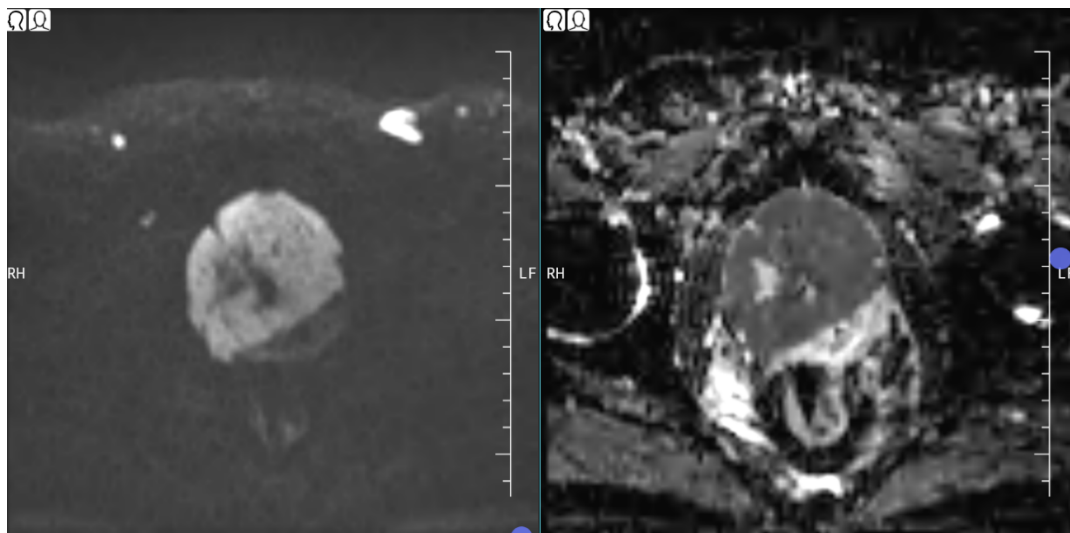


FIG 1C : (DWI and ADC images):

In DWI- shows restricted diffusion; suggestive of cancer.

In ADC- shows dark (low signal); suggestive of cancer.

Later our patient was planned for TRUS guided prostatic biopsy. Histopathology report shows linear cores of prostatic tissues with some cores showing infiltrative neoplasm, composed of sheets of cells with high N:C ratio. The cells have enlarged hyperchromatic nuclei and scant cytoplasm; suggestive of “High grade malignant neoplasm”, (FIG: 2), and advised for IHC markers.

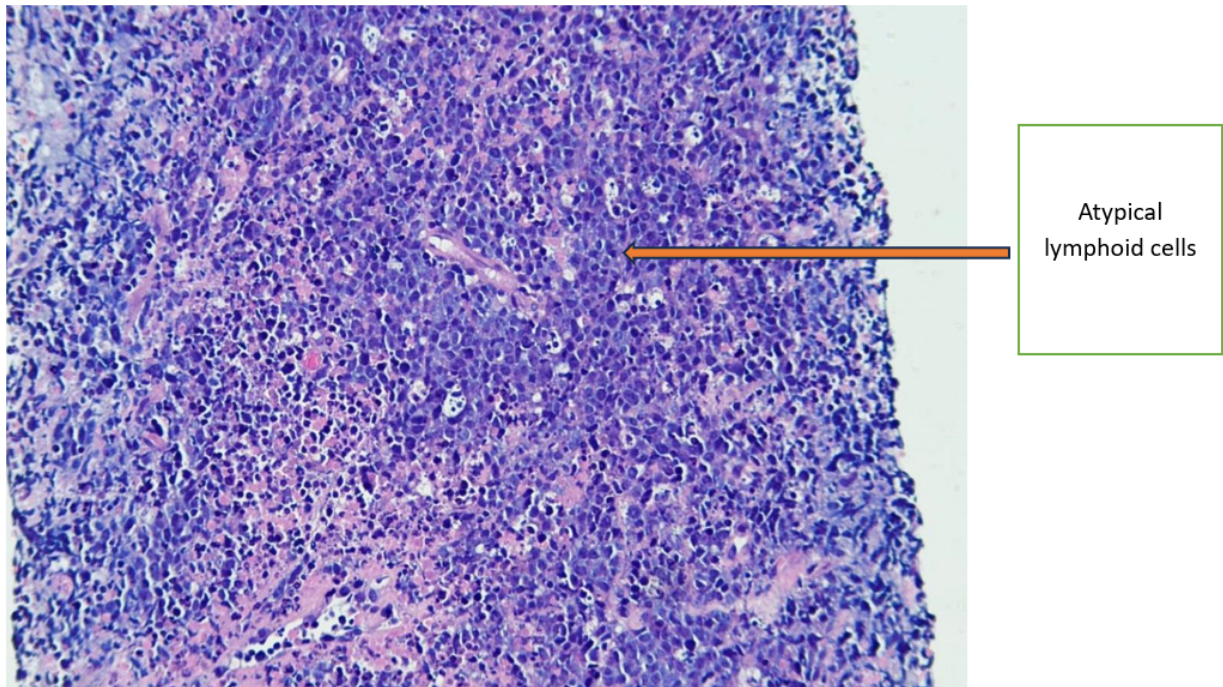


FIG 2: Histopathology image suggestive of Atypical lymphoid cells

On immunohisto-chemical analysis showed tumour cells “positive for CD 20” with “high KI-67” proliferation index, favouring “ High grade B cell Non-Hodgkin Lymphoma- Diffuse Large B cell Lymphoma , NOS (Non-GCB type)”.

Medical oncology refence was taken and advised for bone marrow biopsy and PET-CT scan.

Bone marrow biopsy demonstrated “Trilineage hematopoiesis with no evidence of lymphomatous infiltration.

PET-CT scan revealed (FIG : 3) :-

FDG avid supra diaphragmatic (left lateral wall of oropharynx) and infra diaphragmatic (infrapyloric, bilateral internal iliac and left inguinal) lymph nodes- Metabolically active lymph nodal involvement (Lymphoma).

FDG avid bulky prostate gland; with infiltration of right seminal vesicle and extending to the base of penis- Metabolically active extra nodal lymphomatous involvement.

FDG avid enhancing polypoidal lesion in the distal body of stomach- Metabolically active extra nodal lymphomatous involvement.

Based on these findings, a diagnosis of disseminated stage 4 DLBCL with prostatic and gastric involvement was made. The patient was referred to medical oncology and was initiated on 1st cycle of systemic chemotherapy (R-CHOP) regimen and advised for regular follow ups.

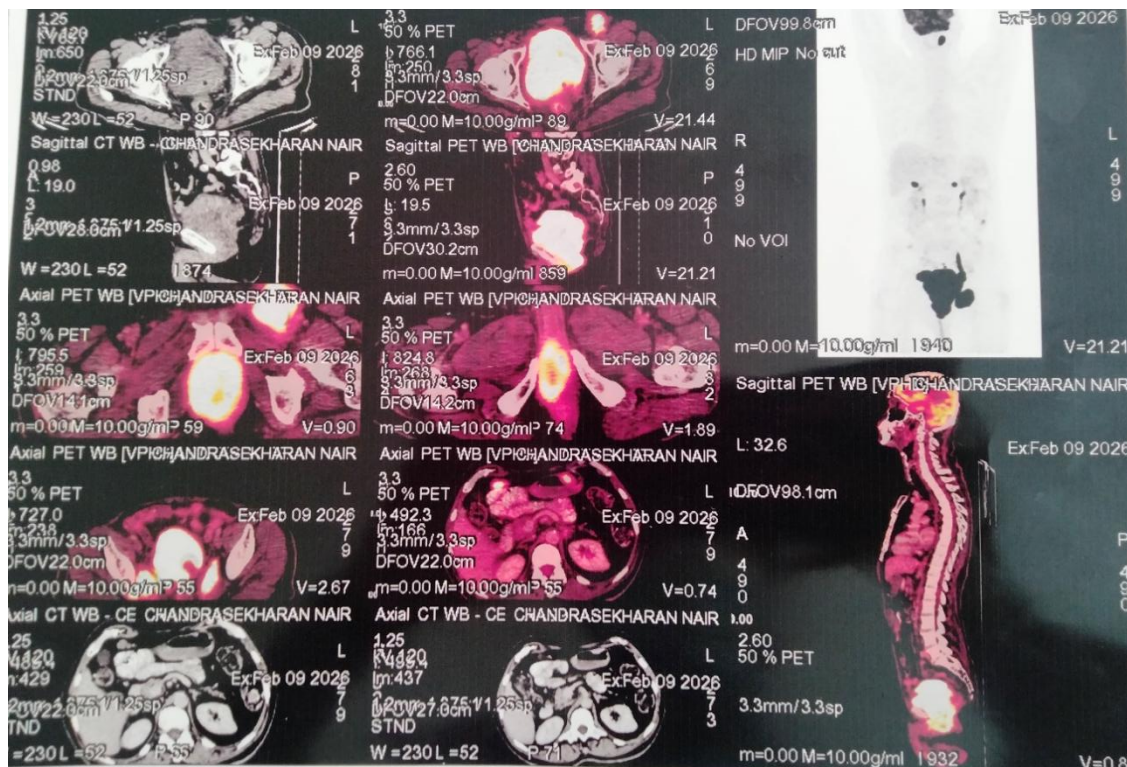


FIG 3- PET CT images:

- FDG avid supra diaphragmatic (left lateral wall of oropharynx) and infra diaphragmatic (infrapyloric, bilateral internal iliac and left inguinal) lymph nodes- Metabolically active lymph nodal involvement (Lymphoma).
- FDG avid bulky prostate gland; with infiltration of right seminal vesicle and extending to the base of penis- Metabolically active extra nodal lymphomatous involvement.
- FDG avid enhancing polypoidal lesion in the distal body of stomach- Metabolically active extra nodal lymphomatous involvement.

Discussion

Prostate primary lymphoma is extremely uncommon, making up less than 0.1% of prostatic cancers and less than 1% of extranodal lymphomas (1,2). Most cases are histologically classified as Diffuse large B cell lymphoma, the most common subtype of Non-Hodgkin lymphoma (3). Prostatic involvement could be the main cause or a component of a systemic disease that has spread (2). Acute urine retention as the first symptom is rare and can be mistaken for adenocarcinoma or benign prostatic hyperplasia.

Patients typically presents with lower urinary tract symptoms, urinary retention or hematuria (1,3). Since lymphoma develops from stromal lymphoid tissue rather than glandular epithelium, serum prostate specific antigen is typically normal (1). Therefore, a markedly enlarged prostate with normal PSA should raise suspicion , particularly when associated with systemic lymphadenopathy. Imaging results are non-specific and frequently show local invasion or diffuse enlargement (4).

The diagnosis is confirmed by histopathology and immunohistochemistry, which usually shows diffuse sheets of atypical lymphoid cells that are positive for DC 20 (1,5). Bone marrow involvement is variable (2). Prostatic lymphoma is treated differently since surgery has no therapeutic role and is only used to eliminate obstruction or to obtain tissue for diagnosis (3). Systemic chemoimmunotherapy with R-CHOP regimen is still the gold standard and is linked to positive outcomes in responsive cases (3,5,6). The International Prognostic Index and stage have a greater influence on prognosis than the local severity of the disease (3).

Early recognition is essential as timely systemic therapy offers the potential for cure.

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