



# Primary Malignant Lymphoma of the Prostate: Report of a Case Achieving Complete Response Chemotherapy

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## ABSTRACT

Primary lymphoma of the prostate is rare. It represents 0.09% of prostate neoplasms. The authors report the case of a 76-year old patient presenting urinary obstruction and renal failure due to primary lymphoma of the prostate. We present a case of non-Hodgkin lymphoma of the prostate managed with six cycles of rituximab-based chemotherapy, and review the related literature.

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## Introduction

Primary lymphoma of the prostate is extremely rare representing approximately 0.2 to 0.8% of extra nodal lymphoma and 0.1% of all prostate neoplasms [1-2]. In this paper, The authors report the case of a patient presenting infravesical obstruction and renal failure resulting from prostate lymphoma. The patient received doxorubicin-based combination chemotherapy, which showed a good outcome in terms of both decreasing the size of the tumor and improving the associated symptoms during 32 months of follow-up. We discuss the clinical manifestations of this disease, emphasizing that systemic chemotherapy represents the initial and preferential therapeutic method.

## Case Report

A 76-year old man was seen at our service, complaining of weak urinary stream, dysuria for 2 months and systemic Symptoms (Fever, shudder, profuse sweat, without weigh loss) for 6 months . He had no relevant past medical history. At first diagnosis, the performance status was equal to 1.0. Digital rectal examination showed a voluminous prostate with fibroelastic consistency.

The serum tumour marker serum Prostate-specific antigen (PSA) was negative, being 2.3 ng/ml (normal <4 ng/ml). An ultrasonography of the urinary tract showed a 45-gram prostate with moderate bilateral uretero-hydronephrosis. TURP (transurethral resection of the prostate) was performed, identifying a diffuse undifferentiated large cell lymphoma. Most of these cells were positive for Cluster of differentiation-20 (CD-20) and leukocyte common antigen (LCA). characterizing B-cell lymphoma (Figure-1). The abdominal and pelvic scan evidenced a voluminous expansive and infiltrative lesion exclusive of the prostate, with intense impregnation, measuring 10 x 8 cm (Figure-2), bilateral uretero-hydronephrosis, and absence of lymph nodal involvement. No evidence of distant metastasis on lung and abdomen was shown by CT scan. Bone scintigraphy was negative for secondary lesions. The patient was staged IEBb according to the Ann Arbor classification system. He was managed with six cycles of rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone (RCHOP regimen).

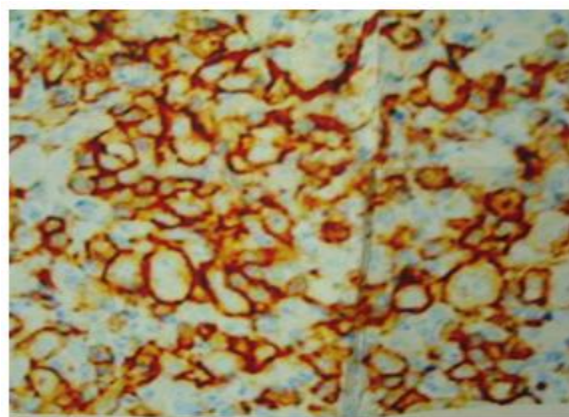


Figure 1. Positivity of tumor cells to CD20, characterizing B-cell lymphoma

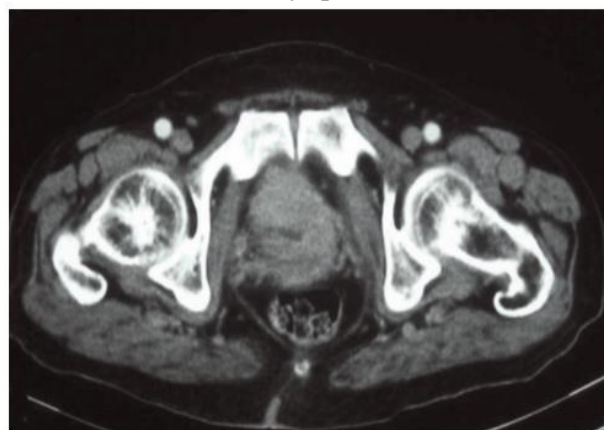


Figure 2. CT scan of the pelvis shows the tumoral process infiltrated the base of the prostate gland

The evaluation was done by abdomino-pelvic and chest CT scans. The first CT scan of the pelvis performed after 3 cycles of chemotherapy showed partial radiological response of the prostatic tumor and the second performed after the end of the 6 cycles of treatment showed complete radiological response. The patient remained disease free, until now, 32 months after the end of the chemotherapy.

## Discussion

Approximately one third of non-Hodgkin lymphomas occur in extranodal sites. Primary lymphomas of the prostate represent 0.1% of cases, and many times, it is incidentally found following prostate surgery for resolving bladder obstruction [2]. Primary lymphomas of the prostate occur in men aged 60 years in average. Almost all patients diagnosed with prostatic lymphoma, whether primary or secondary, present symptoms of lower urinary obstruction [2,3]. Some patients present pain or hematuria, and others present systemic symptoms. PSA is increased for 20% of all cases. On digital rectal examination the prostate appears diffusely enlarged or nodular, and firm [4]. Pathological diagnosis is usually obtained by examination of needle biopsies of prostatic tissue obtained by transurethral resection. Occasionally lymphoma is diagnosed as an incidental finding in a radical prostatectomy specimen removed for known prostatic adenocarcinoma [4]. We may also encounter lymphoma/leukemia as an incidental finding in approximately 0.2 to 1.2% of pelvic lymph node resections performed at radical prostatectomy [5,6].

Because primary lymphoma of the prostate is rare, little is known of its optimal management. In the retrospective review of 62 patients performed by Bostwick et al. [3], 47% of patients died of lymphoma, the specific 5-year survival was only 33%. 73% of patients with primary prostatic lymphoma developed extra prostatic disease 1 to 59 months after diagnosis. There were no significant differences in survival between patients receiving different therapies: chemotherapy, chemotherapy and radiotherapy or surgery only.

Rituximab in combination with CHOP regimen is considered as the standard treatment for patients with advanced stage DLBCL [7]. Studies of rituximab use in the management of gastrointestinal and other extra-nodal lymphoma are ongoing in research programs. And the first results appear to be encouraging. To our knowledge, the present case is the first case of early primary lymphoma of the prostate which was managed successfully with RCHOP chemotherapy.

Because of the rarity of the disease, the prognosis of primary prostatic lymphoma is not clear. It remains uncertain

whether the prognosis of prostatic lymphoma is significantly worse or equivalent to nodal lymphoma.

## Conclusion

Primary lymphoma of the prostate is rare. In most cases the diagnosis was induced by urinary obstruction. Because of the rarity of disease, there is no standard treatment, universally accepted of primary DLBCL of the prostate. For early stage, the combination of chemotherapy and radiotherapy appears to be a logical option. For advanced disease, rituximab in association with CHOP chemotherapy should be considered as the first-choice treatment.

## Conflict of Interests

The authors declare no conflict of interest.

## Authors Contribution

All authors mentioned have contributed to the development of this manuscript. All authors also declare to have read and approved the final manuscript.

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