CLINICAL CASE

Primary diffuse large B-cell lymphoma of the prostate: a case report

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Abstract  Lymphoma of the prostate is an extremely rare entity with very few cases reported on in the medical literature. It can present as primary disease in the gland or be secondary to extraglandular invasion. Great diagnostic suspicion is required given that it manifests with a similar symptomatology to benign diseases. We present herein the case of a patient with lymphoma of the prostate, along with a literature review in relation to diagnosis and management.

KEYWORDS
Prostate cancer; Lymphoma of the prostate; Mexico.

PALABRAS CLAVE
Cáncer de próstata; Linfoma prostático; México.
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Introduction

Prostate cancer is a health problem with an elevated mortality rate. A total of 90% of cases correspond to adenocarcinomas and hematologic tumors represent 0.2% of cases. Lymphomas of the prostate can be primary or secondary. They are extremely aggressive and have a poor short-term outcome. We present herein the clinical case of a primary lymphoma of the prostate that was diagnosed as a consequence of prostate symptoms.

Case presentation

A 54-year-old man presented with a 6-month illness characterized by weight loss of 10 Kg, night sweats, fever, and constipation requiring laxatives; he had reduced urine stream caliber, bladder strain, post-micturition dripping, dysuria, and acute urine retention that conditioned transurethral catheter placement. He was evaluated by the Urology Service and was found to have tegumentary paleness and a distended abdomen due to the adipose panniculus. Upon digital rectal examination the prostate was enlarged, hard, had a fibro-adenomatous consistency, weighed approximately 70 g, and had irregular edges. The laboratory work-up reported elevated creatinine of 6.3 mg/dl and urea of 146 mg/dl, creatinine depuration was 10.06 mL/min/24 hours, hemoglobin 10.8 g/dl, hematocrit 29.5%, and leukocytes, platelets, prostate-specific antigen (PSA), and alkaline phosphatase were all normal. The patient underwent transurethral resection of the prostate with no complications. The histopathologic study revealed images consistent with anaplastic, large B-cell lymphoma with an extranodal diffuse pattern as a primary disease of the prostate. Immunohistochemistry showed CD45 and CD20 expression, with Bcl-2, Bcl-6, CD3, Ki67 and MIB-1 co-expression, and a proliferation rate of 80% (fig. 1). ß2microglobulin was measured, reporting 6,273 ng/ml and LDH of 614 U/L. A scintigram image revealed an increase in the ionic bone turnover in the bilateral scapulohumeral joint, the coxofemoral joint, the pubis, the sacroiliac joints, the sacrum, and the anterior-superior and inferior iliac spines, as well as ectasia of the left renal pelvis (fig. 2). The disease was cataloged as stage IV extranodal prostate lymphoma. The proposed treatment was based on 15 sessions of 30 Gy of radiotherapy plus chemotherapy based on 4 cycles of cyclophosphamide, doxorubicin, vincristine, and prednisone. However, the patient died before completing the treatment.

Discussion

Lymphomas are a group of malignant diseases of the lymphoreticular system, in potential. They can present in the urinary tract in the following 3 forms: primary extranodal disease, primary nodal disease, or advanced-stage disseminated lymphoma. Lymphomatous infiltration of the kidney, ureter, bladder, prostate, penis, and testes has been described. Lymphoma of the prostate has an incidence of 0.09% to 0.1% of all prostate tumors, with fewer than 200 reported cases in the medical literature. Its clinical diagnosis requires a high degree of suspicion because it can simulate other more frequent pathologic processes of the prostate that present as lower obstructive symptoms. Our patient manifested the classic symptoms of a benign prostate pathology, with the exception of fever, sweats, and weight loss, which led to the suspicion of a lymphoproliferative problem. However, due to its remote frequency it was not taken as the first diagnostic option.

Primary lymphomas are less frequent than secondary ones. Initially, the possibility that the prostate could present with this type of tumor was questioned, due to the scarcity of its lymphatic tissue. Nevertheless, Furkase described the existence of intraprostatic lymphatic nodules. This, together with the recognition of extranodal lymphomas and the histologic confirmation of lymphomas limited to the prostate, has resulted in the acceptance and confirmation of the existence of lymphomas of prostatic origin.

It has been proposed that the classification of lymphomas of the prostate follow the Working Formulation according to the Ann Arbor classification:

Stage I. Involvement of a single nodal or extranodal group.
Stage II. Separate nodal areas on the same side of the diaphragm.
Stage III. Two nodal groups on both sides of the diaphragm.

Figure 1 Microscopic view showing the positive immunohistochemistry markers for Ki67 and Bcl-6.
Stage IV. One nodal area and one non-nodal area that are not adjacent.

Our patient presented with stage IV disease. Presentation age is the seventh decade of life and cases rarely present in patients under 30 years of age.6 Our patient was 54 years old.

Generally, PSA parameters are normal, as was the case with our patient.7-8 Radiologically, the disease behaves like an advanced prostate tumor with infiltration into the bladder floor and compression of both ureters.9 Definitive diagnosis is made through immunohistochemistry.

In the majority of cases initial treatment is surgery, for resolving the obstructive problem, along with systemic chemotherapy. We found different proposed regimens in the medical literature with varying results, such as the one described by Rodríguez-ledesma et al. They employed a CHOP (cyclophosphamide, adriamycin, vincristine, and prednisone) regimen in a patient with non-Hodgkin’s B-cell lymphoma, who after 28 months of follow-up was in complete remission.8

Ochoa-Undargarain et al. used radiotherapy, in addition to surgery, with good results.7 The association of radiotherapy with chemotherapy after the surgical event has been described in the medical literature with favorable results. Fernandez-Marichal used a combination of VP 16, doxorubicin, cyclophosphamide, and prednisolone, together with radiotherapy, in a patient with non-Hodgkin’s lymphoma, achieving improvement, and after a 3-year follow-up he had a normal-sized prostate.7 In our patient, in addition to surgery, we used chemotherapy and radiotherapy, but unfortunately not with the same results as those just described. We could argue that his fatal outcome was due to the advanced stage of the disease, with involvement of neighboring structures, as well as distant metastasis. In general, prognosis is bad, regardless of the patient’s age, the histologic type and stage of the disease, and the treatment.10

Conclusion

Lymphoma of the prostate is an extremely rare tumor, with obstructive manifestations of the lower urinary tract. Diagnosis requires a high degree of suspicion and is made through immunohistochemistry. Treatment is directed at alleviating the obstructive symptoms, centering on radiotherapy and/or chemotherapy, but despite this, the short-term outcome is very poor.

Conflict of interest

The authors declare that there is no conflict of interest.

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