



Infiltration of Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma in the Prostatectomy Material in Patient with Symptoms of Prostatism and Multiple Bladder Stones

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Abstract

Chronic lymphocytic leukemia/small lymphocytic lymphoma is a lymphoproliferative disease with bone marrow, peripheral blood, lymph node or various solid organ involvements. It may occur as a monotonous small lymphoid cell infiltration in the solid organs, rarely. This case is presented because of having chronic lymphocytic leukemia/small lymphocytic lymphoma infiltration in a prostatectomy material. A 77 year old male patient referred to urology clinic due to symptoms of prostatism. The patient was diagnosed with benign prostatic hyperplasia and underwent open prostatectomy. Histopathological examination revealed monotone, small lymphoid cell infiltration with an infiltrative distribution in the prostate stroma. In the immunohistochemical study, common strong cytoplasmic staining was detected in monotone lymphoid cells with CD20, CD5 and CD23. With these findings, the patient was diagnosed with chronic lymphocytic leukemia/small lymphocytic lymphoma infiltration in the prostate. Chronic lymphocytic leukemia/small lymphocytic lymphoma cases presenting with lymphocytic infiltration of the prostate are quite rare. As noted in the literature on a small number of cases, most of the cases are detected during the investigation of obstructive symptoms. Leukemic infiltration should also be kept in mind when monotone lymphoid cells are present in the prostatectomy material.

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Introduction

Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma (CLL/SLL) is a lymphoproliferative disorder originating from mature B lymphocytes, which is usually accompanied by involvement of bone marrow, peripheral blood, and lymph nodes [1]. The most common types of visceral organs are the spleen and liver [2]. In the advanced stage of the disease, neoplastic cells may spread to other organs, but extramedullary and extranodal involvement is rare at the time of diagnosis [3]. Infiltration of other organs such as prostate, pituitary, myocardium, and thyroid have been reported in early stages in a small number of cases [4-7].

In this case report, solid organ involvement, which is rarely the first finding of CLL/SLL, is mentioned and the need for differential diagnosis in the presence of dense monotonous lymphoid infiltration of the prostate tissue is being discussed. A review of the recent literature is also provided.

Case Presentation

A 77-year-old male patient referred to urology polyclinic due to symptoms of prostatism. Total PSA was detected as 7.31 ng/ml. In addition, the ultrasonography of the patient was found to have the largest 23 mm diameter multiple hyperechogenic stones within the bladder. Open prostatectomy for benign prostatic hyperplasia and cystolithotripsy for bladder stones was performed. Twenty one stones were removed in the bladder with the largest diameter of 4 cm, no tumoral formation was observed. Macroscopically, multiple nodular areas of 2 cm in diameter were seen on the cut surface of the prostatectomy material, which weighed 130 grams and measured 10.5 cm × 7 cm

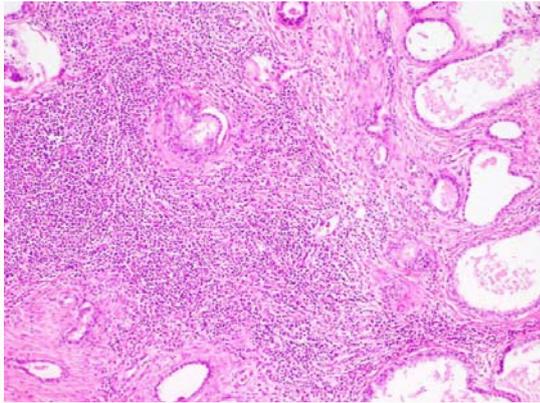


Figure 1: Infiltration of the tumor to the fibromuscular stroma and surround prostatic glands (H&Ex100).

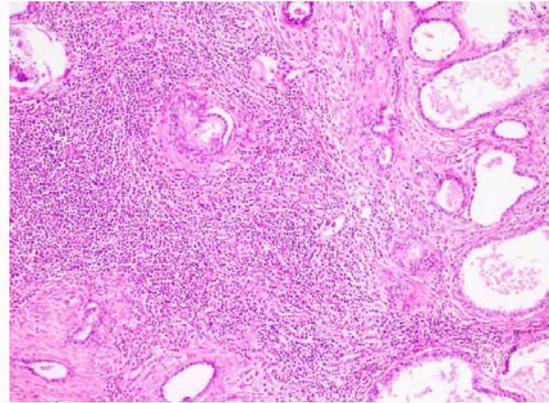


Figure 2: Tumor cells with narrow cytoplasm and nucleus in fine chromatin structure (H&Ex200).

× 4 cm. Microscopic examination was revealed the tumor diffusely infiltrate the fibromuscular stroma and surround prostatic glands (Figure 1). The tumor cells have scanty cytoplasm and nuclei show a fine chromatin structure with often one or more small inconspicuous nucleoli (Figure 2). Immunohistochemical examination revealed extensive intense cytoplasmic staining with CD20, CD5, and CD23 in monotone lymphoid cells, but no immunoreactivity with bcl-6 and CD10.

When the patient was examined hematologically, it was learned that coombs (+) hemolytic anemia and hepatosplenomegaly were detected in the external center one year ago. Laboratory results at the time of application to our center, hemoglobin was 10.9 g/dL, WBC was $6.27 \times 10^3/\mu\text{L}$, platelet was $39 \times 10^3/\mu\text{L}$. Direct coombs was negative. Lymphocytes and monocytes were increased in the peripheral spread. Later on, it was observed that the WBC increased to $40.03 \times 10^3/\mu\text{L}$ in the tests performed. When the clinical story of the patient was investigated in detail, it was found that he had been diagnosed with CLL/SLL about 7 years ago. On the basis of these pathologic and immunohistochemical features, the tumor reported as leukaemic infiltration of prostate.

Discussion

CLL/SLL cases presenting with lymphatic infiltration of the prostate are very rare. In a study conducted by Butler and colleagues, 4863 prostatectomy materials were re-examined, and 6 patients had lymphocytic infiltration in the prostate tissue. Four of these patients already had diagnosis of leukemia, while two patients had not. In two cases, the diagnosis was confirmed by bone marrow and peripheral blood examination. In addition, no infiltration was detected in the prostatic tissue in eight different cases with known leukemia diagnosis and prostatic obstruction [8].

Patients are usually diagnosed during the investigation of obstructive urinary symptoms. Prostate tissue grows like benign prostatic hyperplasia [3]. It is suggested in the literature that leukemic infiltration may cause acute urinary retention only in the presence of other factors such as benign prostatic hyperplasia [3]. CLL/SLL has an average onset age of 65 years and is twice as common in males as females [9]. It is not easy to distinguish the clinical significance of leukemic infiltration from prostatic diseases in these cases because of the high incidence of benign prostatic hyperplasia in elderly patients, which is likely to be high [10].

Elevation of serum PSA levels in prostate lymphomas is not an expected finding [10]. We may have detected PSA elevation as a result of urinary retention caused by benign prostatic hyperplasia. Although the presence of elevated serum PSA level and the presence of intense lymphoid infiltration suggest chronic prostatitis and prostate adenocarcinoma, leukemia/lymphoma infiltration has been primarily discriminated because of its monomorphic appearance in lymphoid cells.

Only systemic chemotherapy in the treatment of CLL/SLL infiltration in the prostate does not remove the prostate disease. For this reason, local radiotherapy applied to the prostate region in addition to systemic chemotherapy treatment will be beneficial for treatment [11].

In conclusion, hematolymphoid malignancies of the prostate occur in a similar age group with primary prostate carcinomas and benign hyperplasia and show similar clinical findings. It should be kept in mind that chronic prostatitis, as well as leukemic infiltration, may be present even in cases where monotonous lymphoid cells are present in the prostatectomy material as described in the literature.

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