

MAILGNANT LYMPHOMA INVOLVING THE PROSTATE: A CASE REPORT

Li-Min Sun¹, Eng-Yen Huang², Nai-Jen Chang³, Li-Min Chung⁴, Chiao-Yi Lu⁵,
Ji-An Liang^{6,7} and Man-Gang Lee⁸

*Departments of Radiation Oncology¹, Pathology³, Medical Oncology⁴, Radiology⁵, and Urology⁸,
Zuoying Armed Forces General Hospital*

²Department of Radiation Oncology, Kaohsiung Chang-Gung Memorial Hospital

⁶Department of Radiation Therapy and Oncology, China Medical University Hospital

⁷School of Medicine, China Medical University

Malignant lymphoma of the prostate gland, either primary or secondary, is rare. We report a 74-year-old male who was diagnosed with disseminated lymphoma including involvement of the prostate gland with the initial presentation of urinary retention. Digital rectal examination revealed mildly enlarged prostate gland with smooth and rubbery consistency. He received transurethral resection of the prostate under the impression of benign prostatic hyperplasia. The pathology found diffused infiltration of atypical lymphoid cells infiltration. The immunohistochemical staining revealed positive for CD20, and consistent with malignant B cell lymphoma. Systemic work-up found that his disease has disseminated many areas. Back mass biopsy showed small to medium atypical lymphoid cells diffused infiltration with immunohistochemical staining for CD3(-), CD5(-), CD10(+), CD20(+), CD23(-), and Cyclin D1(-). The diagnosis of follicular lymphoma was made. The patient received four cycles of chemotherapy with rituximab, cyclophosphamide, etoposide, vincristine and prednisone (R-CEOP). After temporarily partial response, tumor regrowing was noted. Salvage chemotherapy followed by the radiotherapy (RT) to the enlarged paraaortic lymph nodes was given. The patient did not finish the RT course because of exacerbated condition. He died with the disease 9 months after diagnosis.

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Key words: Malignant lymphoma, Prostate gland, Immunohistochemistry

INTRODUCTION

Primary prostatic lymphoma is rare. It accounts for approximately 0.2 to 0.8% of extranodal site of malignant lymphoma and 0.1% of all prostatic neoplasms [4, 11, 13]. Secondary prostatic lymphoma from other

sites is also uncommon [2]. Due to its rarity, prostatic lymphoma is less considered in situation of urinary obstruction. Besides, prostatic carcinoma may also mimic lymphoma histologically [12]. We reported an elderly male with initial presentation of urinary obstruction and enlargement of the prostate gland. The

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Address reprint request to: Dr. Man-Gang Lee., Department of Urology, Zuoying Armed Forces General Hospital., No. 553 Junxiao Rd, Zuoying District, Kaohsiung City, Taiwan, R.O.C.

diagnosis was confirmed by histopathology with immunohistochemistry as secondary prostatic lymphoma.

CASE REPORT

A 74-year-old male visited our outpatient department of urology with the chief complaints of acute urinary retention with insertion of Foley catheter for 13 days. He also suffered from progressive urinary frequency with urgency, weak stream, dribbling, and nocturia for years. Physical examination including digital rectal examination was done and mildly enlarged prostate gland with smooth and rubbery consistency was found. Performance Status showed ECOG I. Besides, several enlarged lymph nodes (LNs) were palpable over the left neck. PSA level was 0.86 ng/mL. Urinary analysis revealed 3+ occult blood. Chest x-ray plain film displayed wideness of mediastinum. Under the impression of benign prostatic hyperplasia with acute urinary obstruction, he received transurethral resection of the prostate (TURP). Subsequently, the pathology of TURP revealed diffused infiltration of neoplastic cells (Figure 1A). Immunohistochemical staining for tumor cells showed cytokeratin (-), prostate specific antigen (-), leukocyte common antigen (+), CD3 (-) and CD20 (+) (Figure 1B). Final pathologic diagnosis is malignant B cell lymphoma.

Tumor staging work-up was arranged, and Gallium scan showed several areas of increased gallium uptake in the right axillary region, left posterior lower neck and left anterior abdomen (Figure 2). Computed tomography (CT) scan of the head and neck, chest and abdomen found lymphoma lesions involving neck, mediastinum, and paraaortic region (Figure 3). Gastroscopy was done and scattered small shallow ulcers at the great curvature of the stomach were found. Excision biopsy of upper back mass and gastric ulcer both also

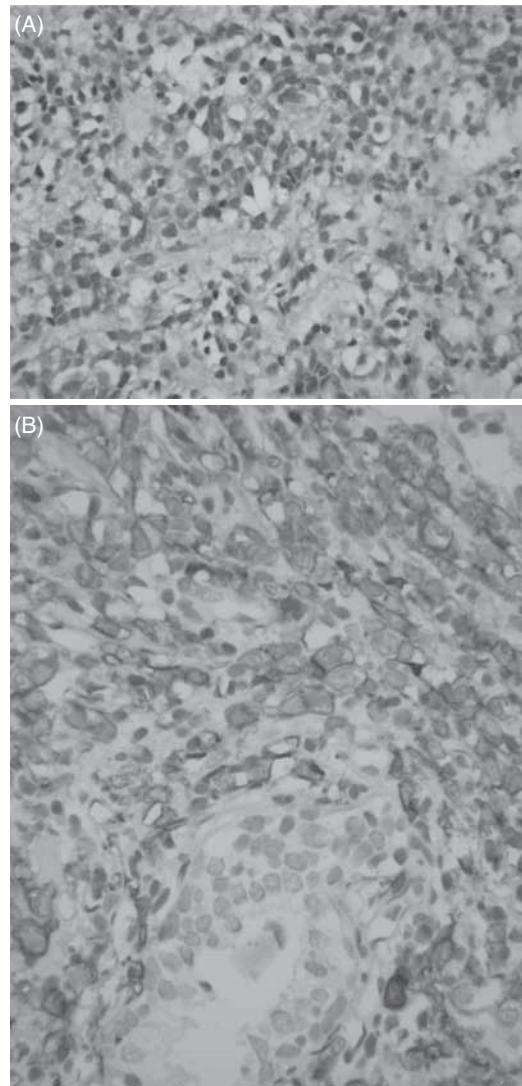


Fig 1. A. The histologic findings from the TURP specimen revealed diffused infiltration of neoplastic cells (400X). B. Immunohistochemical stain for tumor cells showed positive for CD20 (400X).

showed the atypical lymphoid cells infiltration. The microscopic findings of back mass biopsy composed of small to medium atypical lymphoid cell diffused infiltration (Figure 4). Immunohistochemical staining for the lymphoid cells showed CD3 (-), CD5 (-), CD10 (+), CD20 (+), CD23 (-), and Cyclin D1 (-).

Besides, elevated lactate dehydrogenase (LDH) level up to 320 IU/L was noted. The

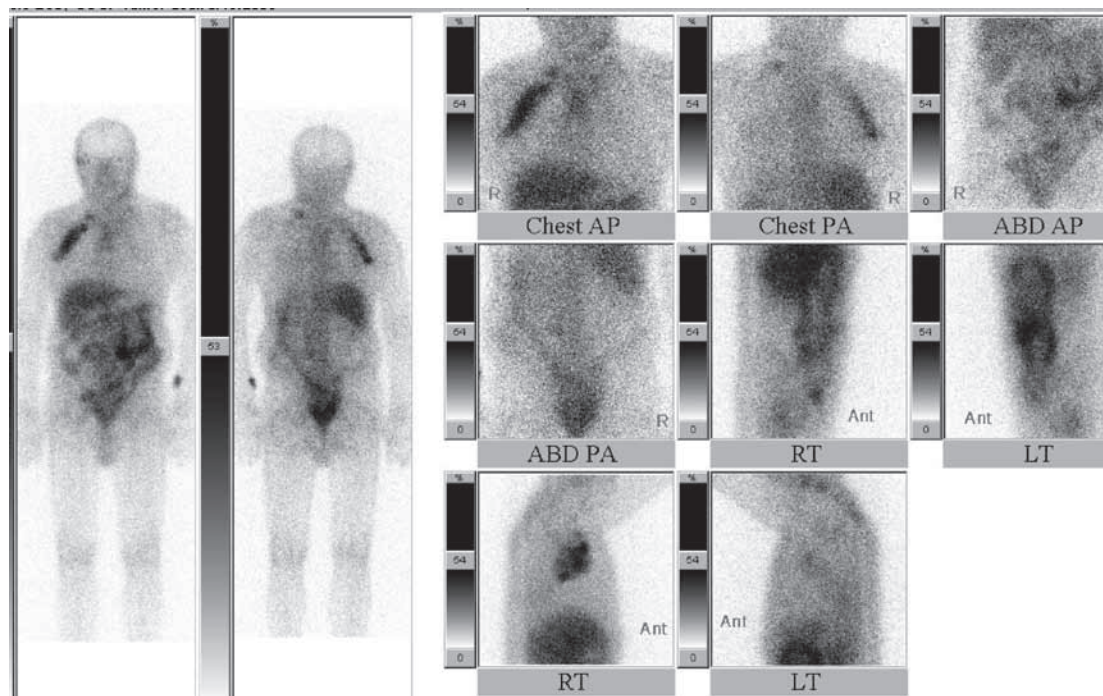


Fig 2. Gallium tumor scan displayed several areas of increased gallium uptake areas in the right axillary region, left posterior lower neck and left anterior abdomen.

bone marrow biopsy was done and showed free of malignant lymphoma involvement. His B-symptoms were not obvious and the final diagnosis was disseminated diffuse large B cell lymphoma with prostate gland, stomach, back soft tissue, and multiple areas LNs involvement. Staged IVE was made according to the Ann Arbor classification system. Four out of 5 risk factors including age ≥ 60 years, elevated LDH, ≥ 2 extranodal sites of disease, and Ann Arbor Stage III or IV were found based on the prognostic indices used in non-Hodgkin's lymphoma from International Prognostic Index [15].

He received four cycles of chemotherapy with rituximab, cyclophosphamide, etoposide, vincristine and prednisone (R-CEOP). Regression of the left neck LNs and abdominal LNs were noted after chemotherapy. However, three months later, lower back pain bothered him. Abdominal CT showed relapse of

lymphadenopathy over the retroperitoneum from the level of kidney to presacral space. He received salvage one cycle of chemotherapy with CEOP regimen followed by the radiotherapy (RT) to the paraaortic masses. The planned dose was 45 Gy in 25 fractions. RT was discontinued at 21.6 Gy in 12 fractions because of exacerbation of his condition. He only survived 9 months after the initial diagnosis.

DISCUSSION

Adenocarcinoma accounts for more than 90% of all prostatic malignancies. Other histological subtypes of prostatic cancers represent only 5 to 10%. For the diagnosis of primary prostatic lymphoma, three criteria need to meet: 1) presenting symptoms attributable to prostatic enlargement; 2) involvement of the prostate predominantly, with or

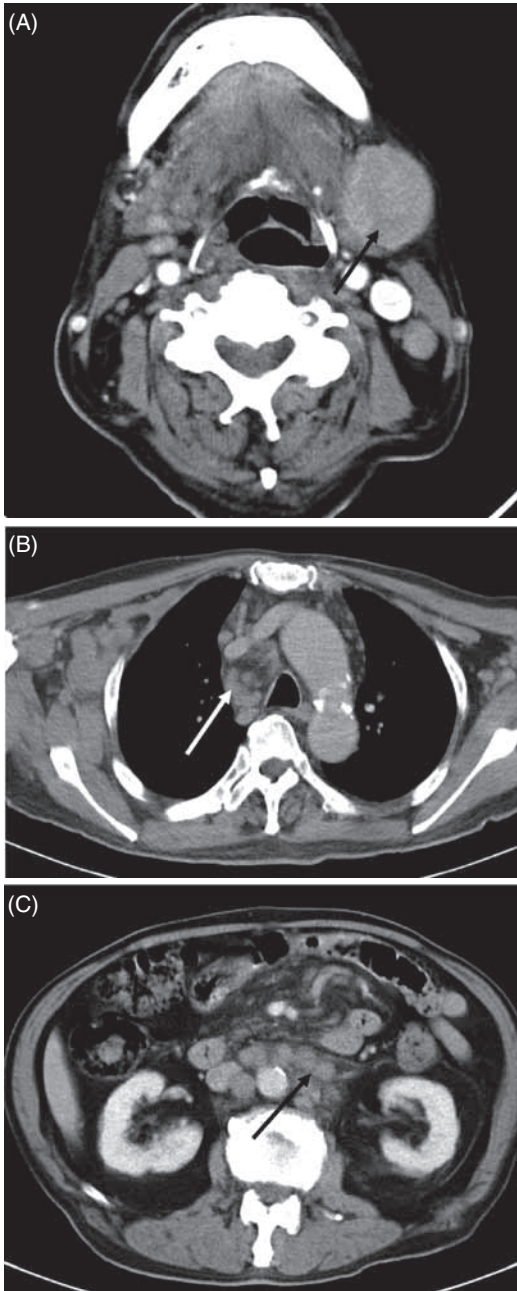


Fig 3. CT scan showed suspected disseminated lymphoma involving neck (A), mediastinum (B), and paraaortic region (C) LNs.

without involvement of adjacent tissue; and 3) absence of involvement of the liver, spleen, or LNs within 1 month of diagnosis of prostatic involvement [8]. We demonstrated a case of disseminated lymphoma with multiple

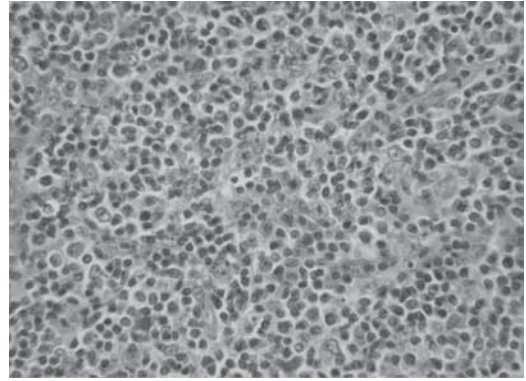


Fig 4. The histologic findings of back mass composed of small to medium atypical lymphoid cells diffused infiltration (400X).

extranodal organs and LNs involvement. His disease did not fit the criteria for the primary prostatic lymphoma, and should be considered as a secondary prostatic lymphoma.

Involvement of the prostate gland by malignant lymphoma should be considered as one of the late manifestations of advanced nodal disease although it is uncommon. An autopsy series of 6000 male patients who died of cancer revealed only 185 (3.1%) with metastasis to prostate gland, of which only 49 (0.8%) were non-Hodgkin's lymphoma [16]. Bostwick et al. performed a study to investigate 62 cases of malignant lymphoma involving the prostate gland and found the secondary involvement was more common than primary involvement (65% vs. 35%). In this study, the patients with secondary involvement were, on average, six years younger than those with primary lymphoma (median age of 60 years vs. 66 years) [2]. Both the characteristics are similar in secondary and primary lymphoma of the bladder and ovary [7, 10]. Our patient was a little bit older than the average.

The clinical manifestation of the prostatic lymphoma is difficult to distinguish from other diseases of the prostate gland causing lower urinary tract obstructive symptoms. Urgency, frequency, and nocturia were most

common presenting symptoms [2, 11, 14]. Our patient had the typical clinical presentation of urinary symptoms. Because the clinical symptoms/signs mimicked benign prostatic hyperplasia, our patient, like most other patients, underwent TURP for the diagnosis. Systemic symptoms including fever, chills, night sweats, and weight loss were not commonly seen [2]. Our patient did not have any B-symptoms, either. Histopathology for primary or secondary prostatic lymphoma was mostly non-Hodgkin's lymphoma, and the majority was diffused lymphoma [2, 3, 5]. Our patient had follicular lymphoma with progression to diffused large B cell lymphoma. For secondary prostatic lymphoma, LNs were still the most common site for extraprostatic involvement, followed by spleen, bone and liver [2]. Our patient had LNs, soft tissue, and gastric involvement besides the prostate gland.

In the study of Bostwick et al., specific survival of the lymphoma was 64% at 1 year, 50% at 2 years, and 33% at 5 years. Patients with primary and secondary prostatic lymphoma did not differ in the duration of survival ($P = 0.97$). However, Bostwick et al. found poor prognosis of prostatic lymphoma regardless of patient age, histologic type, treatment, or clinical stage of disease at presentation [2]. Because prostatic lymphoma is rare, the suggested standard management is optimal chemotherapy with rituximab or doxorubicin based regimen as reported in previous studies [1, 14]. Due to advanced stage of disseminated lymphoma of our case, this patient was expected to have a grave outcome. He received four cycles of chemotherapy with R-CEOP regimen and got partial response of his disease. For stage IE primary prostatic lymphoma, some studies reported good response treated by RT [6, 9]. In our case, RT was not used as major treatment because this patient was stage IVE lymphoma with prostatic involvement at the time of

diagnosis. According to the NCCN guidelines, systemic chemotherapy should be better for him as category I recommendation. We only performed salvage RT to the enlarged para-aortic LNs for symptoms relief. However, his condition was still in progression during RT and did not finish the RT course.

CONCLUSION

We report a rare case with disseminated malignant lymphoma involving the prostate gland at the beginning. He received standard chemotherapy as the major treatment, but only survived 9 months after the initial diagnosis. For elderly men with symptoms of urinary tract obstruction and abnormal digital rectal examination, we should consider the prostatic lymphoma in the differential diagnosis, and early application of RT for symptoms relief as well.

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侵犯攝護腺之惡性淋巴瘤：一病例報告

孫立民¹ 黃英彥² 張乃仁³ 鍾立民⁴ 陸教義⁵ 梁基安^{6,7} 李蠻剛⁸

國軍左營總醫院 放射腫瘤科¹ 病理科³ 血液腫瘤科⁴ 放射診斷科⁵ 泌尿科⁸

高雄長庚醫院 放射腫瘤科²

中國醫藥大學附設醫院 腫瘤治療科⁶

中國醫藥大學 醫學院⁷

發生於攝護腺之惡性淋巴瘤，不論是原發性或繼發性，都是非常罕見的。我們報告一位 74 歲男性因急性尿滯留的症狀求醫，進而被診斷出罹患侵犯攝護腺癌之彌散性惡性淋巴瘤。肛門指診發現光滑而有彈性之輕微攝護腺肥大。在良性攝護腺肥大之初步診斷之下，病患接受了經尿道攝護腺刮除術。病理報告發現充滿腫瘤細胞之浸潤。特殊之免疫組織化學染色顯示 CD20 為陽性，符合為惡性 B 細胞淋巴瘤。全身性檢查發現疾病散佈多區域。背部腫塊切片發現廣泛浸潤中小非典型淋巴細胞，特殊之免疫組織化學染色顯示 CD10 及 CD20 為陽性，診斷為濾泡型淋巴瘤。病患接受了四次的 rituximab, cyclophosphamide, etoposide, vincristine and prednisone (R-CEOP) 化學治療，但腫瘤很快復發。病患再接受補救性化學治療及主動脈旁腫大之淋巴結的放射治療。由於病情惡化病患沒能完成全程之放射治療，病患於最初診斷後的 9 個月帶病死亡。 [放射治療與腫瘤學 2011; 18(1): 67-75]

關鍵詞：惡性淋巴瘤、攝護腺、免疫組織化學