

## Oncology

## Primary Malignant B-cell Lymphoma of the Epididymis

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## ABSTRACT

Primary epididymal lymphomas are very rare condition, only 6 case report was published. In 4 of them, initial presentation was non-tender, continuous growth of testis. It can be misdiagnosed with epididymitis, 5 of them was treated by antibiotics before surgery. One patients treated by surgery another 5 makes neoadjuvant therapy, 2 of radiotherapy 3 of chemotherapy. Only one man died after treatment. This case is about 54-year male patients, diagnosed by diffuse large B-cell lymphoma, who treated by surgery and neoadjuvant chemotherapy combined with radiotherapy.

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## Introduction

Malignant epididymal tumors are extremely rare, with a maximum incidence of 0.03% of all male cancers.<sup>1</sup> Only few primary lymphoma in epididymis were reported.<sup>2–7</sup> The age of these patients ranged from 20 to 73 years, and all were primarily treated with surgical excision of the testis with epididymis. Except one case,<sup>6</sup> neoadjuvant chemotherapy or radiotherapy was performed. Five of 6 patients showed no evidence of disease after treatment and one 68-year-old man<sup>5</sup> died after treatment.

In this report, we present a case of primary malignant lymphoma in epididymis consisting of diffuse large B-cell components.

## Case presentation

A 54-year-old man presented with painless right scrotal swelling. The swelling had started 1 month ago during which it increased in size. He initially visited the local clinic where he was prescribed oral antibiotics for a week; however, the swelling continued to grow in size. Finally, he presented at our clinic for an evaluation. The patient's history was noted and physical examination was performed; there were no symptoms or signs such as fever, chills, testicular pain, or night sweating. A firm, non-tender, plum-sized mass was palpable in the right scrotal area; it moved freely

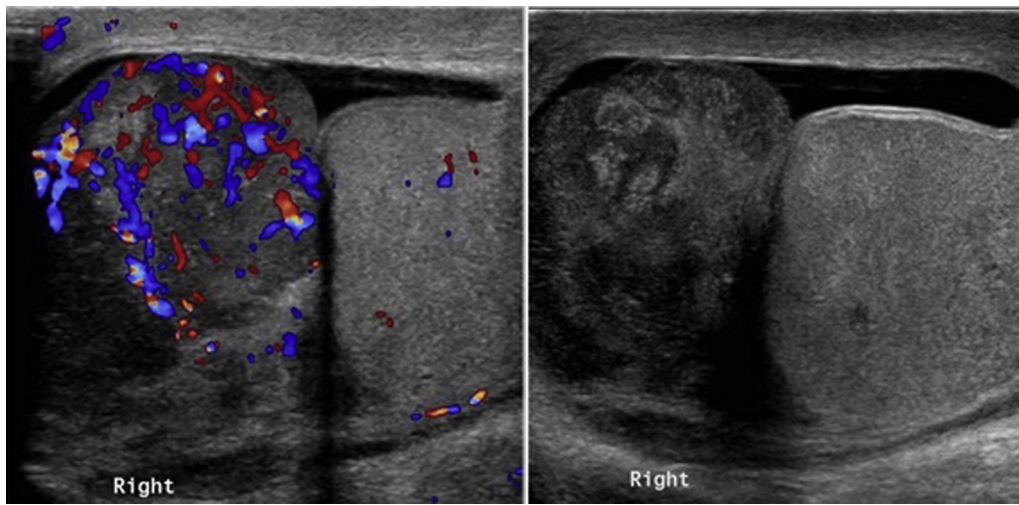
but was confined to the epididymis. Both the testes in the scrotum were easily palpable and were about 19 ml in size. There were no enlarged lymph nodes in the inguinal area.

Ultrasonography revealed a 6 × 5 cm heterogeneous echoic lesion in the right epididymis, which was well separated from the testis. A small hydrocele was observed in the right hemiscrotum, which was ruled out due to reactive change. A color Doppler image revealed increased vascularity in the epididymis (Fig. 1). The contralateral testis and epididymis were normal.

We did not find any abnormality in the results of the blood and urine laboratory tests. We did not perform tests for testis tumor markers such as alpha fetoprotein or human chorionic gonadotropin, because there were no findings that suggested a testicular tumor.

At first, we assumed that the growing right epididymal mass was atypical epididymitis and planned to perform right epididymectomy. Using a standard inguinal incision, right scrotal exploration was performed. We made an incision on the right testis and opened the tunica vaginalis. A tortuous mass was observed in the epididymis. It was well separated from the testis, but several adhesions that attached the mass to the connective tissue around the epididymis were observed. Therefore, we changed the treatment plan to radically excise the epididymis from the testis. The biopsy specimen was reviewed by a pathologist. A solitary mass was observed in the gross specimen, which was separated from the testicular capsule by a distance of 0.1 cm. The mass arose from the epididymis and did not have a definite capsule. It appeared to have invaded the surrounding soft tissues, but not the testis. Light microscopy revealed that histologically the specimen appeared to be a malignant lymphoma, consisting of diffuse large B-cell

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**Figure 1.** Color Doppler ultrasonography of the right scrotum.

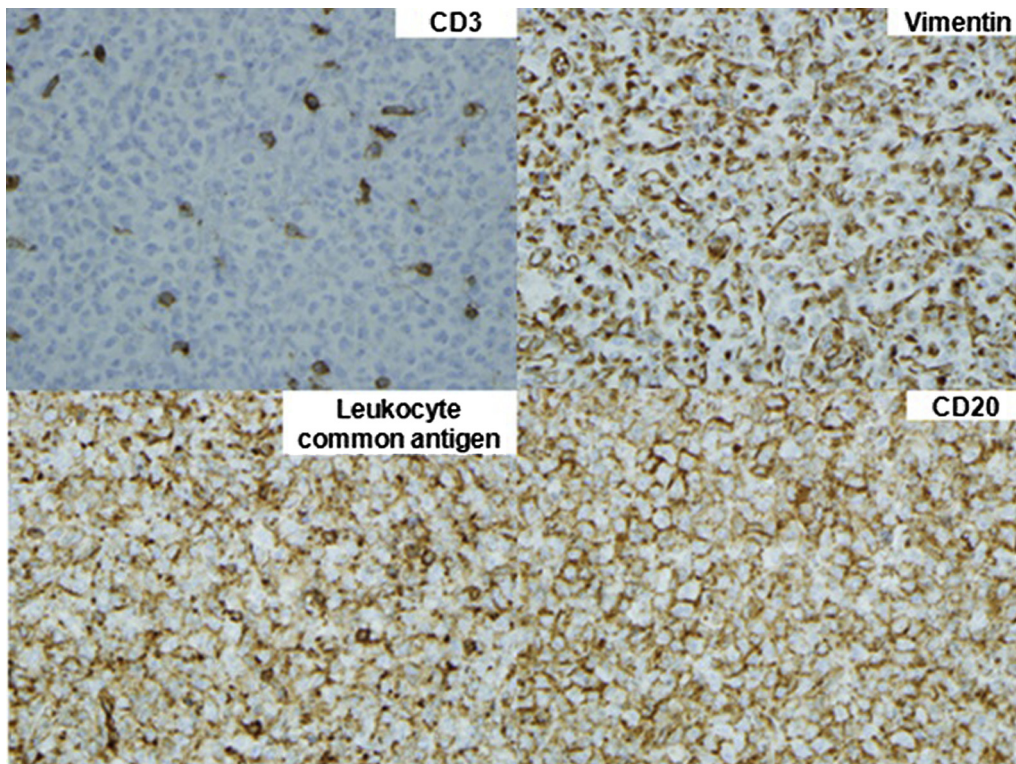
components. Results of immunohistochemical analysis were positive for vimentin and leukocyte common antigen, and diffusely positive for the CD20 antigen (Fig. 2).

We performed computed tomography for the chest, abdominal and pelvic region, and neck, along with brain magnetic resonance imaging, cerebrospinal fluid analysis, bone marrow examination, and fludeoxyglucose-positron emission tomography for the staging work-up. However, we did not find the involvement of any other tumor. The patient was referred to the Hemato-oncology Department and was administered neoadjuvant chemotherapy combined with radiotherapy. Rituximab along with cyclophosphamide, doxorubicin, vincristine, and prednisone as well as intrathecal

methotrexate six cycles was performed. Radiotherapy was given in seventeen times, with total 30.6 GY dose. Patient still showed no evidence of disease state in 6 months follow-up after treatment.

#### Discussion

Diffuse large B-cell lymphoma (DLBCL) is the most common type of non-Hodgkin lymphoma, which is commonly found in male patients<sup>8</sup> and its incidence increases with age. DLBCL typically presents with a rapidly growing symptomatic mass, usually combined with lymph node enlargement in the neck or abdomen. Thirty percent of patients with DLBCL show systemic B symptoms,



**Figure 2.** Immunohistochemistry assay of right epididymal tumor.

such as fever, weight loss, and night sweats. Most scrotal lymphomas disseminate from an extra-testicular site; primary lymphomas in the scrotal area comprise only 1–2% of all lymphoma cases. Lymphomas localized in the epididymis are even rarer with only a few cases reported.<sup>2–7</sup>

Schned et al<sup>2</sup> reported the first case of primary epididymal lymphoma in a 26-year-old man, with no evidence of extra-epididymal spread after extensive staging work-up. There was no clinical evidence of disease 8 months after orchiectomy and radiotherapy. Heaton and Morales<sup>3</sup> described a primary histiocytic lymphoma of the epididymis in a 73-year-old man. The lymphoma was confined to the right epididymis and initially showed a decrease in size with antibiotic therapy. However, the tumor grew in size after 1 year, and therefore, the patient was treated with orchiectomy and post-operative radiotherapy. This patient showed no evidence of disease 12 months after the treatment.

In 1993, Ginaldi et al<sup>4</sup> reported a 7-cm high-grade DLBCL in the epididymis of a 68-year-old-man who was treated with combined orchiectomy and chemotherapy; however, he died 12 months later. McDermot et al<sup>5</sup> described a primary DLBCL limited to the epididymis of a 34-year-old man who initially presented with right epididymal thickening and suspected with tuberculosis. Biopsy showed atypical lymphoproliferative process in the epididymis, and there was no involvement of any other site. Three months later the contralateral epididymis required radical orchiectomy. After chemotherapy, the patient showed no evidence of disease after 79 months.

Kaush et al<sup>6</sup> and Novella et al<sup>7</sup> reported primary DLBCL in the epididymis of young men. The patients were treated with only orchiectomy or orchiectomy combined with chemotherapy and they showed no evidence of disease 36 months and 18 months after treatment, respectively.

Our patient presented with epididymal enlargement that did not respond to antibiotic therapy. We performed orchiectomy and additional chemotherapy, after pathological examination. As

primary DLBCL is not a common disease, there is no consensus regarding optimal treatment. However, a review of previous case reports of patients treated with chemotherapy or radiotherapy after orchiectomy showed that it had good results. This patient also showed no evidence of disease state in 6 months after surgery, but still need pay attention for disease progression.

## Conclusion

A primary DLBCL is rare condition, it only reported several cases. Most of patients complained painless growing mass in epididymis. It is important to rule out atypical malignant conditions of the epididymis in patients who do not respond to antibiotic therapy. And optimal treatment strategy set up for primary malignancy in epididymis should be needed.

## Conflicts of interest

The authors have no conflicts of interest to disclose.

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