

A Rare Case of Non-Hodgkin Lymphoma Presenting as a Penile Mass

Peniste Kitle Şeklinde Ortaya Çıkan Nadir Bir Non-Hodgkin Lenfoma Olgusu

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To the Editor,

Penile tumors are generally rare and most commonly present as squamous cell carcinoma. Histopathological early diagnosis is crucial for the success of treatment [1]. Lymphoma originating from the male reproductive system is extremely rare, constituting less than 5% of extranodal lymph node cases. The most common subtype among these cases is diffuse large B-cell lymphoma [2]. Among those cases, penile lymphoma is usually reported in the literature as case reports. Symptoms include penile ulcer, phimosis, dysuria, and perineal swelling [1,3].

A 24-year-old man was referred to our clinic with a 1-month history of a palpable mass in his penis (Figure 1). On physical examination, a 2-cm lesion was detected on the left side of the distal penis. The patient did not have symptoms such as fever, night sweats, or weight loss. Penile ultrasound was performed and revealed a 2-cm mass at the distal corpus cavernosum. This lesion was not associated with the skin or subcutaneous tissue. On penile magnetic resonance imaging (MRI), a lesion was observed starting from the distal corpus cavernosum of the penis and extending to the proximal corpus cavernosum, involving the bilateral corpus cavernosum and causing apparent diffusion coefficient-limiting expansion in an area of 55x20 mm (Figure 2). After informed consent was obtained from the patient, excisional biopsy was performed from the distal left corpus cavernosum under general anesthesia. The patient was discharged the day after surgery and there were no postoperative complications or adverse events. Histopathological examination of the excision material revealed malignant cells forming a diffuse infiltration. Non-Hodgkin lymphoma with a high-grade B-cell phenotype was considered due to CD3 negativity and CD20 positivity. The findings were consistent with diffuse large B-cell lymphoma with a post-germinal center cell phenotype (Figure 3). In additional examinations, CD5 (-), CD10 (-), BCL6 (+), MUM1 (+), BCL2 (+), c-MYC (50%), CD30 (-), and

EBV-LMP (-) were evaluated. After sperm cryopreservation, the patient underwent systemic evaluation. In fluorodeoxyglucose (FDG) positron emission tomography-computed tomography (PET-CT) imaging, an intensely hypermetabolic focus consistent with the known primary malignancy in the penis and hypermetabolic lymph nodes in the left inguinofemoral area, primarily suggesting involvement of the primary disease, were detected. After receiving four cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin hydrochloride, vincristine sulfate-oncovin, and prednisone), the patient underwent further PET-CT imaging. The results were reported as a whole-body PET-CT examination showing no pathological FDG uptake. The patient is currently being monitored at regular intervals. In accordance with the National Comprehensive



Figure 1. Penile mass on the left side.

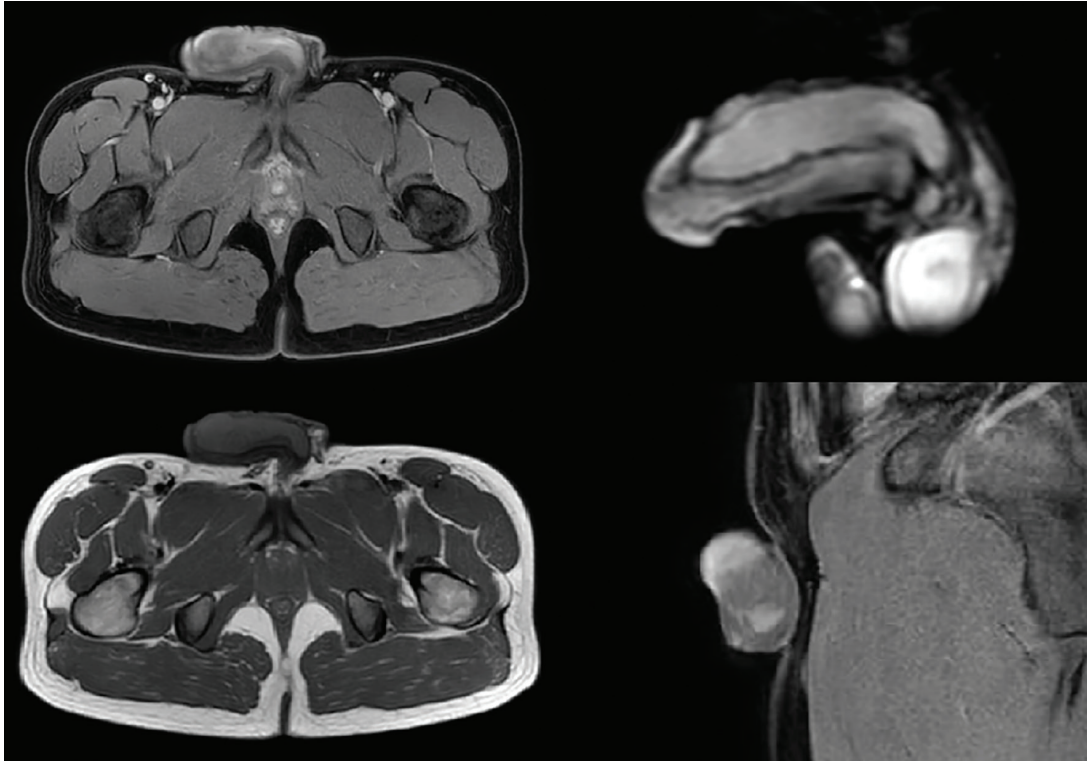


Figure 2. Penile magnetic resonance imaging of a lesion starting from the distal corpus cavernosum of the penis and extending to the proximal corpus cavernosum.

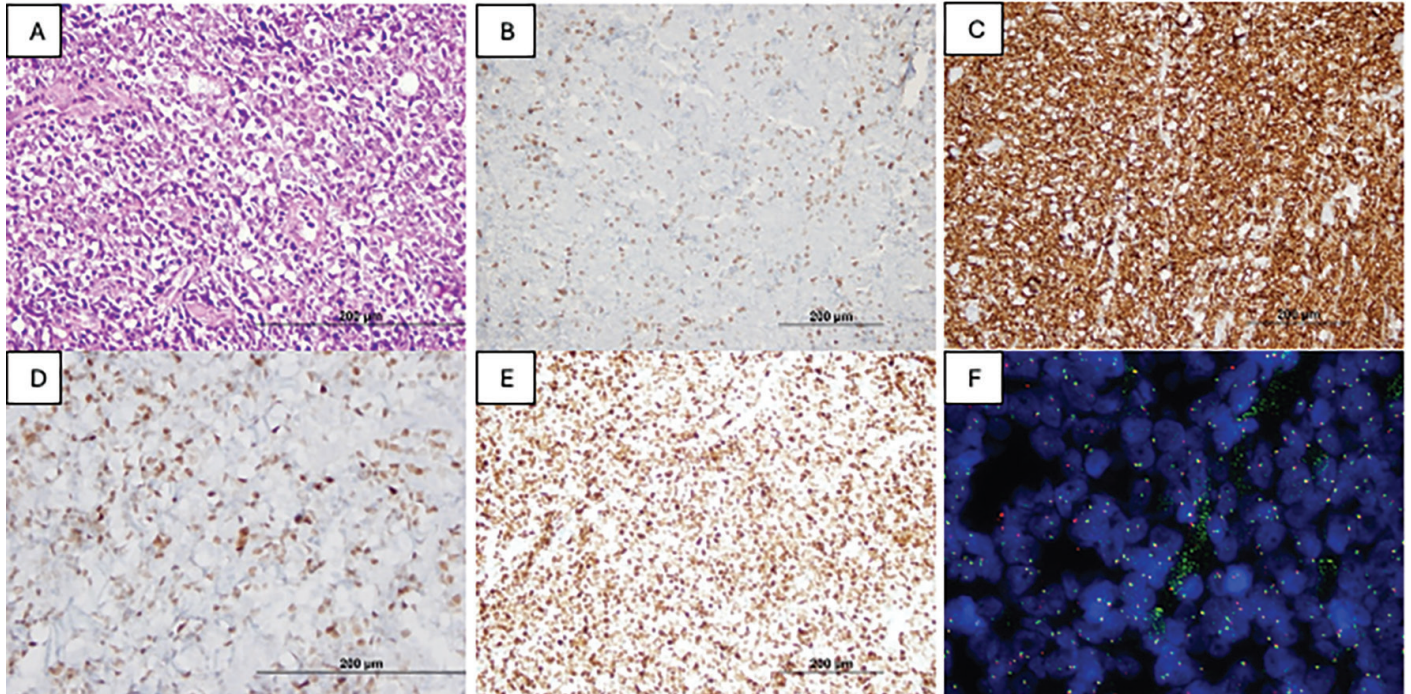


Figure 3. A) Diffuse high-grade neoplastic lymphoid infiltration; hematoxylin and eosin, 400 \times . B) Absence of expression in neoplastic infiltration with CD3 immunohistochemistry; anti-CD3 antibody, 200 \times . C) Diffuse expression in neoplastic infiltration with CD20 immunohistochemistry; anti-CD20 antibody, 200 \times . D) Increased c-MYC expression in neoplastic cells; anti-c-MYC antibody, 400 \times . E) Proliferation score of 95% in neoplastic cells with Ki-67 antibody; Ki-67 antibody, 400 \times . F) No rearrangement detected in the *MYC* gene for neoplastic cells; fluorescence in situ hybridization, *MYC* FISH break-apart probe, 1000 \times .

Cancer Network guidelines for B-cell lymphoma, the case was staged as I-E. The revised International Prognostic Index (R-IPI) score for diffuse large B-cell lymphoma was calculated as 1 because only extranodal involvement was present. This R-IPI score reflects an overall survival rate of 79% and progression-free survival rate of 80%. The central nervous system (CNS)-IPI score was calculated as 1 and CNS prophylaxis was not given as there was no involvement of the adrenal glands, kidneys, or testes.

Non-Hodgkin lymphoma occurs in extranodal sites in 50% of patients but is extremely rare in the penis [3]. Although the main manifestation of primary penile lymphoma has been reported to be a painless mass and ulcer on the corpus cavernosum of the penis, glans penis, and penile skin together with symptoms such as itching or dysuria [2,4], our patient presented with a painless lesion that was not associated with the skin or urethra. Imaging findings of primary penile lymphoma show no characteristic changes and ultrasonography often shows a vascularized mass or ulcer on the penile skin [5]. Since our patient did not have any cutaneous or systemic findings, corpus cavernosum thrombosis was included in the differential diagnosis and MRI was performed. Due to the low incidence of penile lymphoma, a standardized diagnosis plan is yet to be established. A review of the literature reveals that management decisions for primary penile lymphoma are primarily dependent on the stage of the disease, the age of the patient, and the patient's performance status. Since malignant lymphoma is a systemic disease with the potential to metastasize hematogenously, and since treatment with chemotherapy and radiotherapy can preserve penile function, radical surgery appears to be contraindicated. It should only be employed in cases where other modalities have failed. Systemic chemotherapy is a favorable treatment option as it preserves erectile function and prevents deformity. The traditional chemotherapy regimen is CHOP, but alternative regimens, including those containing rituximab, such as R-CVP (rituximab, cyclophosphamide, vincristine, and prednisone), have also been used [2]. Further developments include the potential for radioimmunological conjugates and oblimersen sodium (B-cell lymphoma-2 antisense oligonucleotide) to serve as effective therapeutic agents for the treatment of low-grade

malignant lymphomas [4]. Definitive diagnosis is made by biopsy and immunohistochemical examinations [6]. In conclusion, although it is rare in patients presenting with a penile mass, the possibility of lymphoma involvement should be kept in mind.

Keywords: Penile lymphoma, Penile mass, Non-Hodgkin lymphoma, Peyronie's disease

Anahtar Sözcükler: Penil lenfoma, Penil kitle, Non-Hodgkin lenfoma, Peyronie hastalığı

Ethics

Informed Consent: Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Footnotes

Authorship Contributions

Surgical and Medical Practices: M.D., A.K.; Concept: M.D., A.H.S.; Design: M.D., A.K.; Data Collection or Processing: A.H.S., İ.T., Ö.H., A.A., Z.C.; Analysis or Interpretation: A.H.S., İ.T., Ö.H., A.A., Z.C.; Literature Search: A.H.S., İ.T., M.D.; Writing: A.H.S., İ.T.

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