Skeletal Muscle Diffuse Large B-Cell Lymphoma in the Gluteal Region

Gluteal Bölgede İskelet Kası Diffüz Büyük B Hücreli Lenfoma

Nereyda Gonzalez-Benavides, Jesus Alberto Cardenas-de la Garza, Candelario Rodriguez-Vivian, Jorge Ocampo-Candiani, Oliverio Welsh

Autonomous University of Nuevo León, Dr. Jose E. Gonzalez Faculty of Medicine and University Hospital, Department of Dermatology, Monterrey, Mexico

To the Editor,

Diffuse large B-cell lymphoma (DLBCL) is the most common form of non-Hodgkin lymphoma (NHL) [1]. Approximately 30% of NHL cases arise from an extranodal site, including the skin, testes, lungs, bones, gastrointestinal tract, and central nervous system [1,2]. Primary skeletal muscle lymphomas are rare and account for 0.5% of NHL cases [3].

A 60-year-old male presented with a 5-month history of a rapidly growing mass in his left buttock accompanied by intense pain and impaired mobilization. He denied weight loss, fever, or night sweats. Physical examination revealed a firm, tender left buttock mass, measuring 19x13 cm (Figure 1a). No palpable lymph nodes were detected. Laboratory tests were unremarkable. Abdominal and pelvic contrast-enhanced CT scan showed a soft tissue tumor in the left gluteal region, affecting the psoas, gluteus maximus, and minor muscles with left retroperitoneal and inguinal lymphadenopathy. Two deep punch biopsies were performed. Histopathological examination revealed diffuse atypical lymphocyte infiltration involving the dermis, subcutaneous tissue, and muscle. Immunohistochemical staining was positive for CD20, with focal positivity of 20% for MUM1, and negative for CD10 and BCL6. The Ki-67 proliferation index was 80%. The final diagnosis was DLBCL, activated B-cell subtype. Six cycles of chemotherapy with rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP) were started. He obtained complete clinical remission (Figure 1b) with no recurrence.

Extranodal lymphomas (ENLs) are defined as those with no/minimal nodal involvement associated with a dominant extranodal component [4]. However, the definition of primary lymphoma remains a controversial issue, especially in patients where both nodal and extranodal sites are involved. The Lugano classification designates extranodal disease as single extranodal lesions without nodal involvement or patients with state I or II nodal disease with a clinically dominant extranodal component [5,6,7]. ENLs may arise from any site devoid of lymphocytes and almost half represent DLBCL [6].

Involvement of the skeletal muscles in NHL is unusual and has been reported to occur in 1.1% of patients. The most

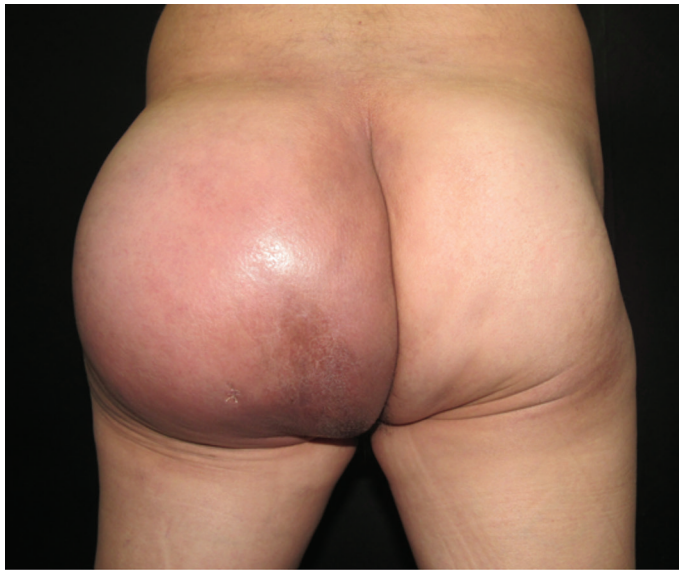

Figure 1a. Diffuse large B-cell lymphoma in the gluteal region before treatment.

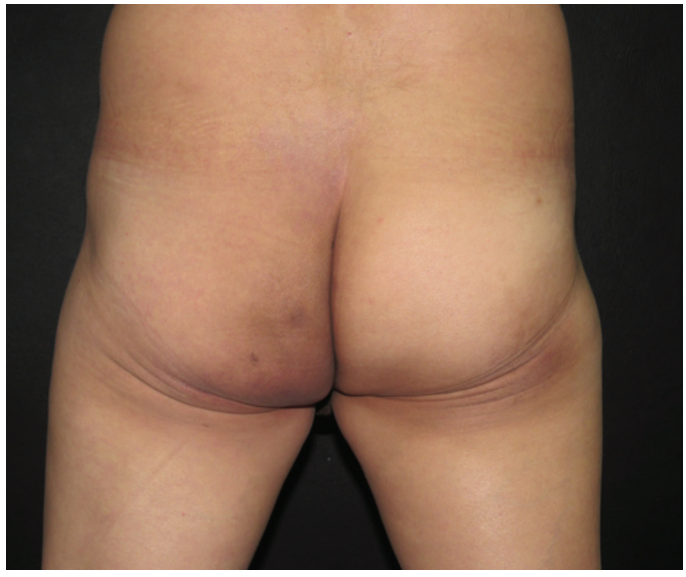

Figure 1b. After 6 cycles of R-CHOP chemotherapy.

common route of muscle involvement is hematogenous, lymphatic, or by contiguous spread, or, very rarely, as a primary extranodal disease [4]. The most commonly affected muscles are those of the extremities, pelvis, and gluteal regions [6]. In a retrospective study from the Mayo Clinic of over 7000 cases of lymphoma, primary muscle lymphoma accounted for only 0.1%, as diagnosed over a 10-year period [8].

The main symptoms include the presence of a mass with progressive enlargement, pain, and swelling [9]. Imaging studies show diffuse enlargement of the muscle involving multiple compartments, distinguishing it from soft tissue sarcomas that usually involve one compartment [9]. Magnetic resonance imaging may aid in diagnosis and enables evaluation of tumor extension and adjacent structure involvement. However, histological analysis and immunohistochemistry is necessary to confirm the diagnosis [10].

Differential diagnosis includes soft tissue sarcoma, metastatic carcinoma, and neurogenic tumors such as malignant peripheral nerve sheath tumors [6]. No specific guidelines for the treatment of skeletal muscle ENLs are available. R-CHOP chemotherapy is usually the preferred regimen [7]. Due to the scarce number of reports, information on the precise prognosis of primary skeletal ENLs is not available.

Acknowledgments

We thank Sergio Lozano-Rodriguez, MD, for editing the manuscript and the Department of Pathological Anatomy and Cytopathology of University Hospital Dr. Jose Eleuterio Gonzalez, Autonomous University of Nuevo León, for providing immunohistochemistry images.

Keywords: Diffuse large B-cell lymphoma, Extranodal lymphoma, Gluteal lymphoma, Muscle lymphoma

Anahtar Sözcükler: Diffüz büyük B hücreli lenfoma, Ekstranodal lenfoma, Gluteal lenfoma, Kas lenfoması

Informed Consent: Received.

Conflict of Interest: The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

References

1. Zhang L, Lin Q, Dong L, Li Y. Primary skeletal muscle diffuse large B cell lymphoma: a case report and review of the literature. Oncol Lett 2015;10:2156-2160.
2. Møller MB, Pedersen NT, Christensen BE. Diffuse large B-cell lymphoma: clinical implications of extranodal versus nodal presentation--a population-based study of 1575 cases. Br J Haematol 2004;124:151-159.
3. Katsura M, Nishina H, Shigemori Y, Nakanishi T. Extranodal lymphoma originating in the gluteal muscle with adjacent bone involvement and mimicking a soft tissue sarcoma. Int J Surg Case Rep 2015;7:161-164.
4. Alamdari A, Naderi N, Peiman S, Shahi F. Non-Hodgkin lymphoma with primary involvement of skeletal muscle. Int J Hematol Oncol Stem Cell Res 2014;8:55-57.
5. Cheson BD, Fisher RI, Barrington SF, Cavalli F, Schwartz LH, Zucca E, Lister TA. Recommendations for initial evaluation, staging, and response assessment of Hodgkin and non-Hodgkin lymphoma: the Lugano classification. J Clin Oncol 2014;32:3059-3068.
6. Elkourashy SA, Nashwan AJ, Alam SI, Ammar AA, El Sayed AM, Omri HE, Yassin MA. Aggressive lymphoma "sarcoma mimicker" originating in the gluteus and adductor muscles: a case report and literature review. Clin Med Insights Case Rep 2016;9:47-53.
7. Krol AD, le Cessie S, Snijder S, Kluin-Nelemans JC, Kluin PM, Noordijk EM. Primary extranodal non-Hodgkin's lymphoma (NHL): the impact of alternative definitions tested in the Comprehensive Cancer Centre West population-based NHL registry. Ann Oncol 2003;14:131-139.
8. Travis WD, Banks PM, Reiman HM. Primary extranodal soft tissue lymphoma of the extremities. Am J Surg Pathol 1987;11:359-366.
9. Burton E, Schafernak K, Morgan E, Samet J. Skeletal muscle involvement in B-cell lymphoma: two cases illustrating the contribution of imaging to a clinically unsuspected diagnosis. Case Rep Radiol 2017;2017:2068957.
10. Hongsakul K, Laohawiriyakamol T, Kayasut K. A rare case of primary muscular non-Hodgkin's lymphoma and a review of how imaging can assist in its diagnosis. Singapore Med J 2013;54:179-182.

Address for Correspondence/Yazışma Adresi: Oliverio WELSH, M.D., Autonomous University of Nuevo León, Dr. Jose E. Gonzalez Faculty of Medicine and University Hospital, Department of Dermatology, Monterrey, Mexico
Phone : +52 (81) 83 48 03 83 **E-mail:** owelsh@yahoo.com ORCID-ID: orcid.org/0000-0002-2484-2988

Received/Geliş tarihi: May 31, 2018
Accepted/Kabul tarihi: July 02, 2018
DOI: 10.4274/tjh.2018.0186