CASE REPORT

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Dedifferentiated Liposarcoma of the Left Thigh: a Rare Case

Demet Sengul[1], Ilker Sengul[2], Huseyin Ustun[3]

[1]Department of Pathology, Giresun University Faculty of Medicine, Giresun, Turkey
[2]Division of Endocrine Surgery, Department of General Surgery, Giresun University Faculty of Medicine, Giresun, Turkey
[3]Department of Pathology, Ankara Education and Research Hospital, Ankara, Turkey

Corresponding author: Demet Sengul, MD, Asssistant Professor of Pathology, Department of Pathology, Giresun University Faculty of Medicine, Nizamiye Compound Mumcular Avenue, 28100 Giresun, Turkey. GSM : +90 507 480 43 52. Fax: +90 454 310 16 99. E-mail: E-mail: demet.sengul.52@gmail.com; demet.sengul@giresun.edu.tr. ORCID ID: http://www.orcid.org: 0000-0000-0000-0000.

ABSTRACT

Introduction: Liposarcoma is generally classified into four subtypes: a) well-differentiated liposarcoma/atypical lipomatous tumor, b) dedifferentiated liposarcoma, c) myxoid/round cell liposarcoma, and d) pleomorphic liposarcoma. Dedifferentiated liposarcoma is mostly seen in the region of retroperitoneum. **Aim:** To present a case of dedifferentiated liposarcoma in a rare site of location: the lower extremity. **Case Report:** A 24-year-old woman presented with a firm painful mass, 3x2 cm in diameter on the medial side of left thigh. MRI demonstrated a lesion on that location showing low signal intensity on T1-wieghted and high signal intensity on T2A-wieghted sequences. After an excisional biopsy the histopathological examination via Haematoxylin and Eosin firstly revealed the diagnosis of malign undifferentiated tumor. The results of immunohistochemical evaluations were as follows: SMA (-), HMB45 (-), S100 (+, focally), Desmin (-), Vimentin (+, focally), CD68 (+, focally), CD34 (-), LCA (-), and Inhibin (-). The final histopathological diagnosis was dedifferentiated liposarcoma. **Conclusions:** In English-language literature data for dedifferentiated liposarcoma of the lower extremities are very restricted. Although imaging with CT and MRI, the final and distinct diagnosis is made immunohistochemically. A clinician should be aware of the presence of a dedifferentiated liposarcoma within a mass on the lower extremities.

Keywords: Liposarcoma; Dedifferentiated; Lower Extremity.

1. INTRODUCTION

Liposarcomas (LPSs) was first determined by Virchow in 1857 (1). Than Evans presented firstly the term of "dedifferentiated" LPS in 1979 (2). This tumor has mesenchymal origin and tends to have multiple satellite lesions extending beyond its limitations (1). Liposarcoma (LPS) is a malignant soft tissue sarcoma that occurs in adults, making up 25 % of all soft tissue sarcomas in a large European database (www.conticabase.org) (3). It is usually classified into four subtypes: well-differentiated LPS or atypical lipomatous tumor, dedifferentiated LPS (DDLPS), myxoid/round LPS, and pleomorphic LPS (4). DDLPS is seen in late adulthood with no sex predilection. Retroperitoneum is the most common site of occurence for DDLPS (more than 80 % of cases). Other locations consist extremities, spermatic cord, other sites of internal trunk, head and neck, and subcutaneous tissue (3). So, we aimed to present a rare case of DDLPS of the lower extremity in a female (5).

2. CASE REPORT

A 24-year-old Turkish woman admitted with two months history of enlarging painful mass, in her left medial thigh. Physical examination revealed a firm mass, 3x2 cm in diameter in midmedial region of her left thigh. She did not specify any individual or familial history of carcinoma and no any abnormality detected on the physical examination of the other systems. Thus, she referred to the policlinic of orthopaedics. After they referred her to us, we examined the mass in the guidance of MRI. MRI demonstrated that a lesion on the middle and medial side of the left thigh showed low signal intensity on T1-wieghted and high signal intensity on T2A-wieghted sequences. The mass was located in the subcutaneous tissue and some edematous signal changes in the neighboring subcutaneous and perifascial tissues were detected. The neighboring muscular tissues were observed as natural. Then she was consulted to the polyclinic of orthopaedics again. However, after they referred her to us in a second time, an excisional biopsy was performed for the mentioned mass. After evaluation with Haematoxylin and Eosin, the histopathological examination revealed tumoral tissue consisting neoplastic cells, having undefined cy-

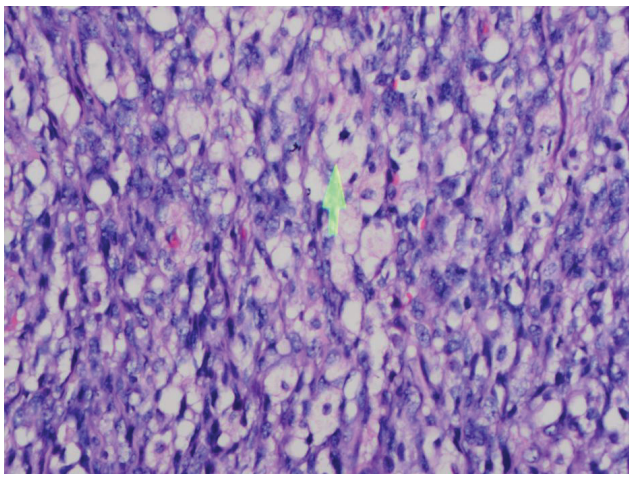

Figure 1. Photomicrograph shows undefined cytoplasmic bordered neoplastic cells having hyperchromatic nuclei in some areas and lipoblasts having pleomorphic-vesicles, mostly in solid pattern (Arrow indicates a lipoblast) (Haematoxylin and Eosin, Original magnification, 400x) .

toplasmic borders and pleomorphic-vesicles in the areas of adipose and connective tissues. Neoplastic cells had hyperchromatic nuclei in some areas. Some cell groups having lipoblast character were observed, mostly in solid pattern (Figure 1). Although the diagnosis of malign undifferentiated tumor was firstly thought, a detailed immunohistochemical examination was recommended. Our results of immunohistochemical evaluation were as follows: SMA (-), HMB45 (-), S100 (+, focally) (Figure 2), Desmin (-), Vimentin (+, focally), CD68 (+, focally), CD34 (-), LCA (-), and Inhibin (-). So, the final histopathological diagnosis was DDLPS. Then, she referred to the polyclinic of orthopaedics again with the distinct histopathological diagnosis of DDLPS of the left thigh.

3. DISCUSSION

DDLPS is a kind of histologically complex patterned tumor. Poorly differentiated sarcomas such malignant fibrous histiocytoma, fibrosarcoma and malignant hemangiopericytoma, pleomorphic rhabdomyosarcoma, myxofibrosarcoma, and malignant mesenchymoma are included in the differential diagnosis of DDLPS (3). Its clinical behavior is between well-differentiated LPS and high-grade sarcoma. DDLPS shows a local recurrence rate of 41 % and a metastatic rate of 17 %. Its disease related mortality rate is 28 % (4). Prognosis is mostly oriented by local recurrences (40-60 %), especially in the location of the retroperitoneum (3). A very limited data are reported for DDLPS of the lower extremities in English-language literature (4).

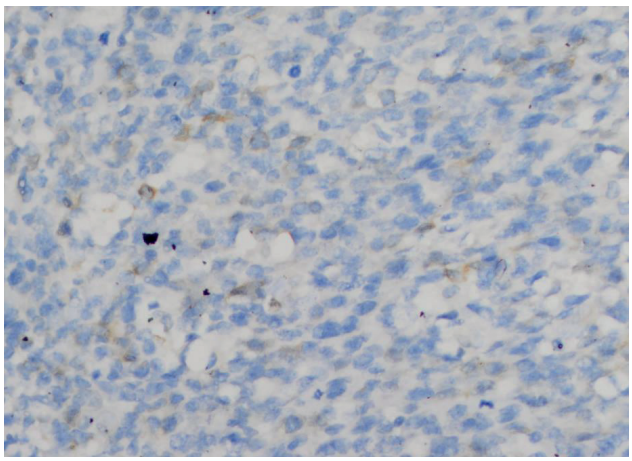

Figure 2. Photomicrograph shows a weakly focal [+] expression of S-100 for DDLPS of the left thigh (Original magnification, 400x)
DDLPS: Dedifferentiated liposarcoma

4. CONCLUSION

Radiological findings of these tumors are usually based on CT and MRI. However, the accurate diagnosis is made immunohistochemically. In the treatment, a wide resection of the tumor with a safety margin is recommended. Conclusively, a clinician should be vigilant for occurence of a DDLPS inside a mass located on the lower extremities even it has a painful character.

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- **Conflict of interest:** None declared.
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