Liposarcoma of The Lower Extremity: A Single Center Experience of 59 Patients

Alt Ekstremite Liposarkomları; Ellidokuz Hastalık Tek Klinik Serisi

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ÖZET

Amaç: Bu çalışmada alt ekstremite liposarkomları hakkında bilgi vermek, tedavi yönetimi ve hastaların ortalama yaşam süreleri hakkında klinik tecrübelerimizin paylaşılması amaçlanmıştır.
Yöntemler: Retrospektif bir çalışmadır. 1986-2010 yılları arasında minimum takip süresi 5 yıl ve daha fazla olan 59 hastanın dosyaları ve radyolojik görünütleri incelenmiştir.
Bulgular: Bizim çalışmamızda literatürün aksine en sık görülen liposarkom alttipi miksoid liposarkom olarak belirlenmiştir. Düşük gradlı liposarkom olan 10 hasta sadece marjinal rezeksiyon ile tedavi edilip nüks izlenmemiştir. Hiçbir hastaya neoadjuvan radyoterapi verilmemiştir. Adjuvan radyoterapi ise intermediate grad ve yüksek grad liposarkom olan 49 hastaya verilmiştir. Yüksek grad liposarkom olan dört hastada akciğer metastazı gözlenmiştir. Miksoid liposarkom olan iki hastada ise ekstremite metastazı gözlenmiştir.
Sonuç: Miksoid liposarkom alttipinin kliniğimizde en fazla oranda görülmesinin sebebinin, düşük gradlı liposarkomların lipom gibi birçok klinikte tedavisinin yapılması olarak düşünüyoruz. Neoadjuvan radyoterapi cerrahi tedaviyi zorlaştırabileceğinden uygulanmamıştır. Nükslerin çoğunlukla ilk 2 yıl içinde görülmektedir, bundan dolayı ilk 2 yıl boyunca hastaların sıkı takip edilmelidir.
Anahtar Kelimeler: Alt ekstremite; Liposarkom; Yumuşak doku sarkomu

ABSTRACT

Objective: The purpose of this study is to give the information on the outcome, management and survivability of patients with low extremity liposarcoma.
Methods: This study is a retrospective study. All the patients were seen and managed between 1986 and 2010. Their records were retrieved and analyzed for this study. Fiftynine cases were identified to have the follow up of minimum 5 years and complete documentation.
Results: In our study, the most common variant of the liposarcom is myxoid liposarcoma in spite of literature. Ten patients who have low grade liposarcom were treated with marginal resection. Recurrence wasn't observed. We didn't perform neoadjuvant radiotherapy. Two patients who have high grade liposarcoma underwent neoadjuvant chemotherapy. Adjuvant radiotherapy was given 49 patient who have intermediate or high grade liposarcoma. Four patients who have high grade liposarcoma were presented with lung metastases. Two patients who have myxoid liposarcoma were presented with extremity metastates.
Conclusion: We thought that, low grade liposarcomas had been treated at other small clinics as lipom so in our series the myxoid liposarcoma is the most common subtype. Neoadjuvant radiotherapy can get difficult surgery done. Recurrence usually was presented in two years after first surgery. So patients must be followed frequently during two years.
Key words: Lower extremity; Liposarcoma; Soft tissue sarcomas

Introduction

Liposarcomas are rare malignant lesions (annual incidence- 2.5 case/ million/ year) of lipoblasts. Based on molecular and cytogenetic studies, liposarcoma can be divided into three biological grades, encompassing five different subtypes including well-differentiated subtype, myxoid, round-cell, pleomorphic and de-differentiated subtypes (1). The well-differentiated liposarcoma is the most common variant and tend to arise in the limbs or retroperitoneum in the middle-aged or elderly population (1). The myxoid and round-cell

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subtypes account for the next largest groups (30-40% of all liposarcomas), often presenting in a younger population. They have a higher risk of metastasis, and occur more often in the limbs. The de-differentiated and pleomorphic subtypes account for about only 5% of all liposarcoma cases. Adequate clinical and radiological assessments of the tumor have to be made prior to surgery in assessing the resectability of the tumor. Due to the risk of local recurrence and metastasis, it might be of benefit to follow up the patient for as long as possible (2). Unplanned surgery with the misdiagnosis of lipoma may lead to tumor bed resection increasing the resection mass and also complications. In this series, we report the experience of a single center in the treatment of liposarcomas.

The purpose of this study is to give the information on the outcome, management and survivability of patients with low extremity liposarcoma.

Table1: Grades and subtypes of liposarcomas

Low Grade(~%50)	Intermediate Grade(~%40)	High Grade(~%5)
Well differantiated	Mixoid	Pleomorfic
	Round Cell	Dedifferantiated

Material and Methods

All the patients were seen and managed between 1986 and 2010. Their records were retrieved and analyzed for this study. Fiftynine cases were identified to have the follow up of minimum 5 years and complete documentation. There were 38 men and 21 women with a mean age of 49.5 (range, 18–84) years and with a liposarcoma of the extremity confirmed either by a trucut biopsy or at final histology after surgery. Data on tumor presentation, course of management and treatment, and long-term outcome, were obtained from the patients' medical records. Recurrences after treatment were also studied. Every patient underwent a full history, thorough physical examination, routine blood tests, electrocardiogram and chest radiography. Magnetic resonance imaging (MRI) was done for all our patients. Computarized tomgraphy (CT) of the chest and bone scan were also done preoperatively to look for metastasis.

Table 2: Treatment protocol

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Alttip	Resection tecnique	Neoadj Radiotherapy	Neoadj Chemotherapy	Adj Radiotherapy	Adj Chemotherapy	Recurrens	Metastases
Well Differentiated Subtype (10)	Marginal	-	-	-	-	-	-
Mixoid Subtype (39)	Wide	-	-	39	3	9	2
Dedifferansiated subtype(3)	Wide	1	1	3	1	1	1
Pleomorfic subtype(7)	Wide	1	1	7	1	2	2

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Results

Most patients noticed a mass, lump or swelling, not usually associated with pain. Locations of the tumors included a majority in the thigh (n = 43, all primary). Tumor size was assessed preoperatively using three-dimensional imaging with MRI, and the maximum dimension of the three planes (coronal, transverse and sagittal) was used. Tumor size ranged from 5 to 26 cm. Tumor grades included 10 low, 39 intermediate, and 10 high subgroups in the final histology. The treatment strategy for all the liposarcomas seen was to aim for limb salvage. Fortyeight patients underwent wide resection, 10 patients underwent marginal resection and one amputationwas performed. At final histology, four patients had margin involvement of the resected specimen. They underwent further re-excision, and final histology returned negative for malignancy. Postoperative radiotherapy (RT) was given to patients who had less than adequate or compromised margins, and those who had tumors with subtypes known to be more biologically aggressive. Two patients underwent neoadjuvant chemotherapy (de-differentiated and pleomorphic subtype). Adjuvant chemotherapy was administered to three patients who had myxoid liposarcoma. No patient with well-differentiated liposarcoma developed any recurrence. Tumour recurrence grouped according to original subtypes, one was a dedifferentiated liposarcomas, two were pleomorphic and nine were myxoid liposarcoma. One patient with de-differentiated tumor and three patients with pleomorphic tumor presented with lung metastases. Two patients with extremity metastases of myxoid tumour were treated wide resection.

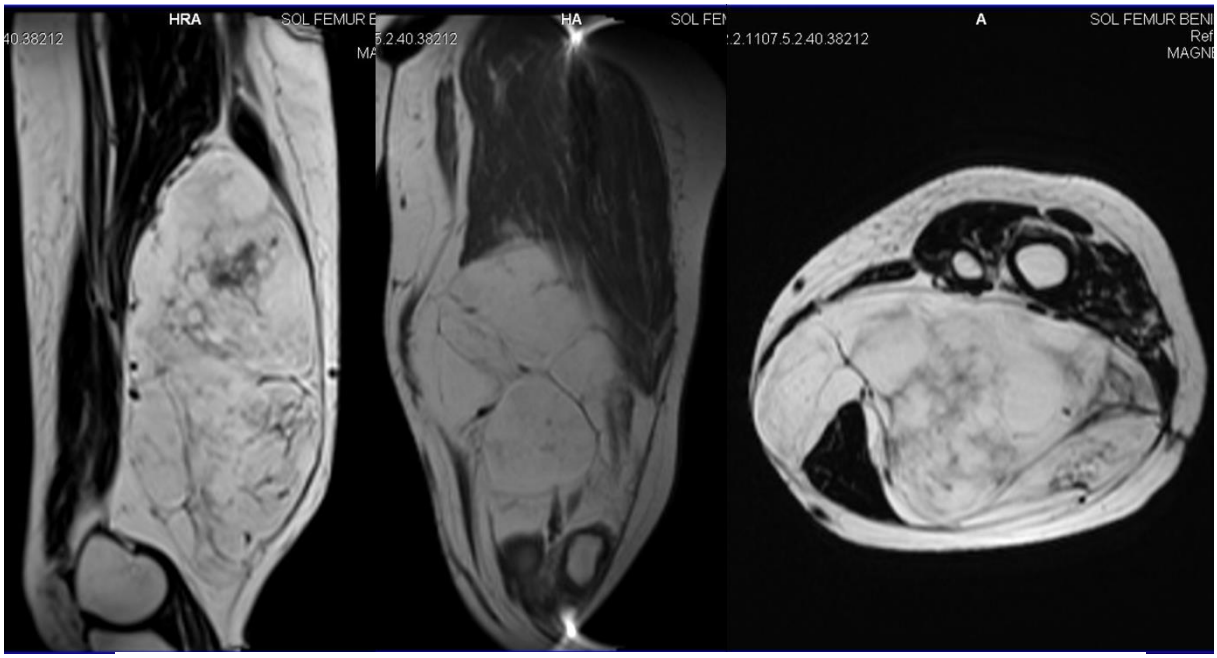

Figure 1: Thirtynine years old female patient. Myxoid liposarcoma on ipsilateral thigh and cruris posterior

Discussion

Among malignant tumors, liposarcoma of the extremities is uncommon. In our series, patients with well-differentiated liposarcoma were treated with wide or marginal resection, and we had no recurrences or metastases in this group. This correlates well with some studies, which show very low metastatic rates. In spite of the literature, the myxoid liposarcoma group was the first most common subtype in our series. Metastatic potential is also very high, ranging from 20% to 70%. Metastases to the extrapulmonary sites were a striking feature of this subtype. Myxoid liposarcoma have also been shown to have significant metastatic potential. Treatment results corroborated well with other studies, and wide resection with or

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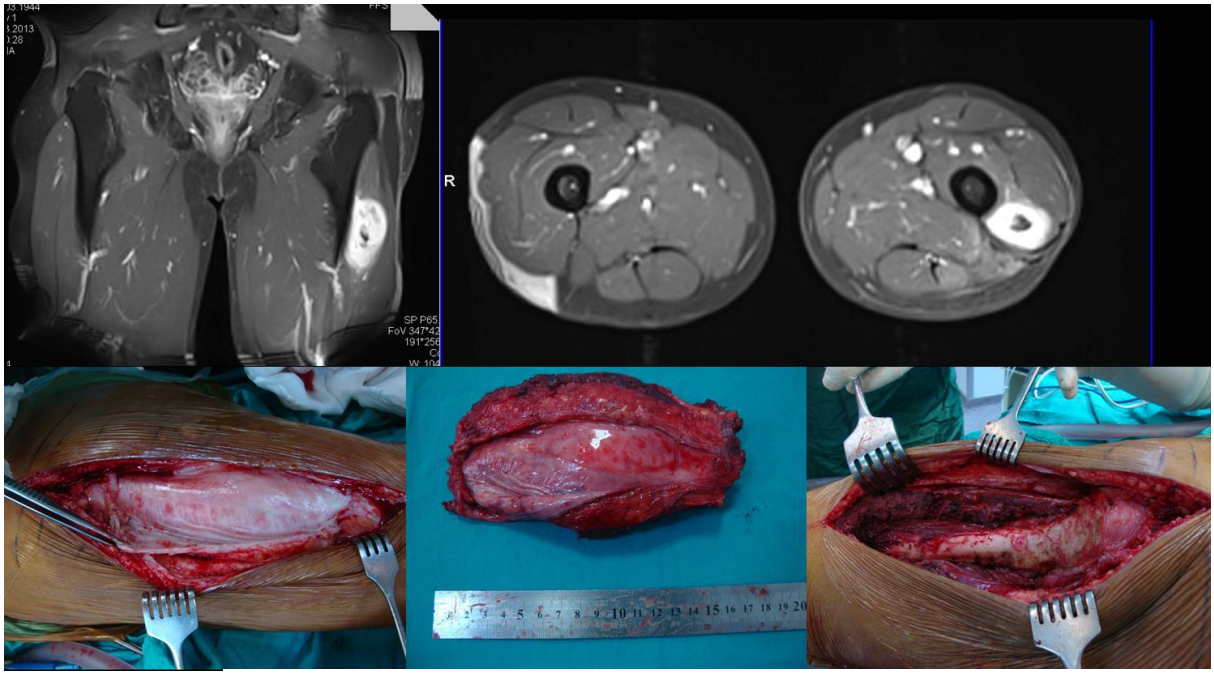

Figure 2: Sixtynine years old male patient. Recurrence on lateral thigh after 13 months. He was treated with wide resection.

without RT might be the best choice for this group of patients (3,4). The subgroup of pleomorphic liposarcoma has been shown in studies to be a locally aggressive and highly metastasing tumor with high local recurrence and metastatic rates, and high relapse and poor survival rates. We had six patients with this variant, and all were managed with wide resection and adjuvant RT. The role of chemotherapy in the management of this variant is unclear, but chemotherapy were given in two patients in our study population. Trucut biopsies may be unreliable in diagnosing subtypes accurately. In our series trucut biopsies reflect the malignant potential of the lesion in the majority of the patients. Although the role of chemotherapy and RT in the management of liposarcoma is still controversial, unplanned resection leads to increased usage of adjuvant RT because of suspected margins even in the case of tumor bed resection. An increased survival rate might be possible if more emphasis is placed on the early detection, adequate treatment and follow-up of the disease (5).

Conflict of Interest: None

References

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