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Case Report Open Access

Huge Liposarcoma of the Forefoot: A Case Report

Sebastiano Barreca, Domenico Fenga, Francesco Rosario Campo and Michele Attilio Rosa*

Department of Biomedical and Dental Sciences and Morphofunctional Imaging, School of Orthopaedics and Traumatology, University Hospital "Gaetano Martino", University of Messina, Via Consolare Valeria 1, 98100, Messina, Italy

Abstract

Sarcomas of the foot are conventionally treated with amputation. However, limb salvage procedures are possible in cases of specific histological patterns. We report a rare case of a huge myxoid liposarcoma of the dorsal and plantar aspect of the forefoot.

A 47 years-old woman was admitted to our Institution complaining of a painless huge mass of the dorsal and plantar aspect of the left forefoot. Following the patient's medical history remarking a previous myxoid liposarcoma, this finding was interpreted as a local recurrence. The mass was explored through radiographic, magnetic resonance imaging and bone scan assessments. An incisional biopsy was performed, and a myxoid liposarcoma was ultimately diagnosed.

A limb salvage procedure was performed in association with coverage plastic surgery. Postoperative stay was uneventfully. Forty days after surgery the patient underwent a cycle of radiotherapy. At 10 year follow-up the patient had a good functionality without signs of local recurrence nor metastatic spread.

Keywords: Sarcoma; Liposarcoma; Radiotherapy

Introduction

Soft tissue sacromas of the extremities have been extensively described before. Among malignant soft tissue lesions, liposarcoma is relatively common, but its localization in the foot and ankle is extremely rare [1]. Indeed, among liposarcomas of the lower limb, only up to 1.3% and 6.25% of them located in the foot and ankle, respectively [2,3].

Sarcomas of the foot and ankle have been historically treated with amputation [4] because of the difficulty to control the local aggressiveness of the disease, the need of proper, wide surgical margins, and maintenance of a functional limb. There remains debate on whether patients suffering from a sarcoma of the foot and ankle may still preserve a satisfactory functionality even following a limb salvage procedure [5].

In this article, we report a rare case of a recurrent myxoid liposarcoma located in the dorsum of the forefoot with a concomitant plantar involvement. The mass was excised through a limb salvage procedure; in details, a multidisciplinary treatment consisting of a wide local excision followed by coverage plastic surgery was performed.

Case Report

A 47 years-old woman was admitted to our Institution complaining of a painless huge mass of the dorsal and plantar aspect of the left forefoot (Figure 1). In the patient's medical history, a previous myxoid liposarcoma of the foot that was excised 3 years before was noteworthy. The mass was interpreted as a local recurrence of myxoid liposarcoma. Radiographic assessment of the foot showed a soft tissue mass compressing the 2nd and 3rd metatarsal bones (Figure 2). Magnetic resonance imaging scans revealed a high intensity mass on T2-wheighted images located beneath the extensor tendons and attached to the metatarsal bones (Figure 3). Bone scan of the foot showed a high captation of the mass (Figure 4). An incisional biopsy was performed, and the pathologist ultimately diagnosed a myxoid liposarcoma.

We proposed and executed a limb salvage procedure. In details, a dorsal lozenge approach to include the scar of the previous biopsy was done. A wide margin excision of the tumor was next performed saving both metatarsal bones and extensor tendons. A free latissimus dorsi muscle flap was then performed for the coverage of the surgical site (Figure 5). No blood transfusions needed. Postoperative stay was uneventfully. Twelve days after surgery a skin flap was used to cover the muscle. Forty days after surgery the patient underwent a cycle of radiotherapy.

At the last available follow-up examination 10 years postoperatively the patient had a good functional result; the active range of motion

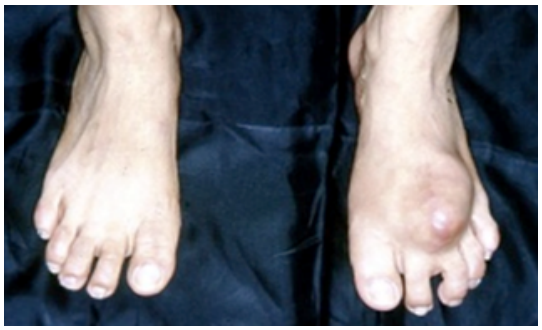

Figure 1: Clinical presentation.

***Corresponding author:** Michele Attilio Rosa, Department of Orthopaedic Oncology and Traumatology, Department of, Biomedical Sciences and Morphological and Functional Images, School of Orthopaedics and Traumatology, University of Messina, "Gaetano Martino" University Hospital, Via Consolare Valeria 1, 98100, Messina, Italy, Tel: 00390902213040; Fax: 00390902934567; E-mail: mattilio51@gmail.com

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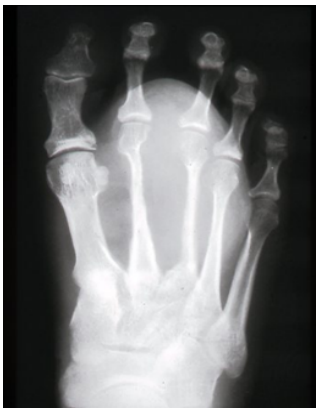

Figure 2: Radiological assessment of the foot: anteroposterior view.

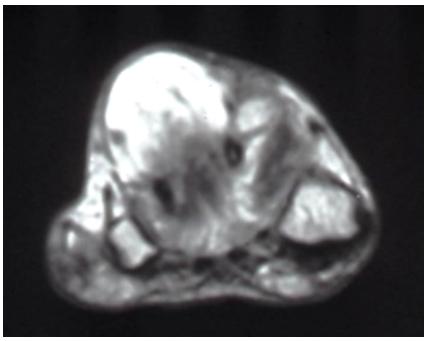

Figure 3: Magnetic resonance imaging assessment of the foot: T2-wheighted frontal view.

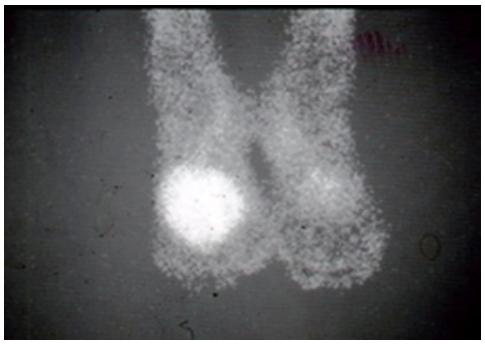

Figure 4: Bone scan assessment of the foot.

of the ankle was 0-15° extension and 0-20° flexion. No signs of local recurrence nor metastatic spread were manifested (Figure 6).

Discussion

Pure myxoid liposarcoma is a low-grade soft tissue sarcoma with a 5-year survival rate of 70%; conversely, multifocal myxoid liposarcoma has a poorer outcome. Differently from other soft tissue sarcomas, myxoid liposarcoma often leads to bone and soft tissue metastases, as well as local recurrence [6].

Whilst historically treated with amputation, intensified effort are currently made to treat patients with myxoid liposarcoma with wide margin excision, whenever possible, with or without adjuvant radiotherapy or chemotherapy.

Ozaki et al. [4] report a case of myxoid liposarcoma of the dorsum of the foot treated by limb salvage operation with intraoperative extracorporeal autogenous irradiated bone and tendon grafts, and no recurrence occurred 3 years postoperatively. Nishio et al. [7] report a case of myxoid liposarcoma of the medial aspect of the ankle treated with a wide resection and a free anterolateral thigh flap with fascia lata; moreover, a sural nerve graft was used to reconstruct the tibial nerve. Seven years postoperatively, the patient had no evidence of local recurrence nor metastasis.

In the present case, we carried out a wide resection followed by a reconstruction and postoperative radiotherapy. Immediate reconstruction should always be considered after resection with

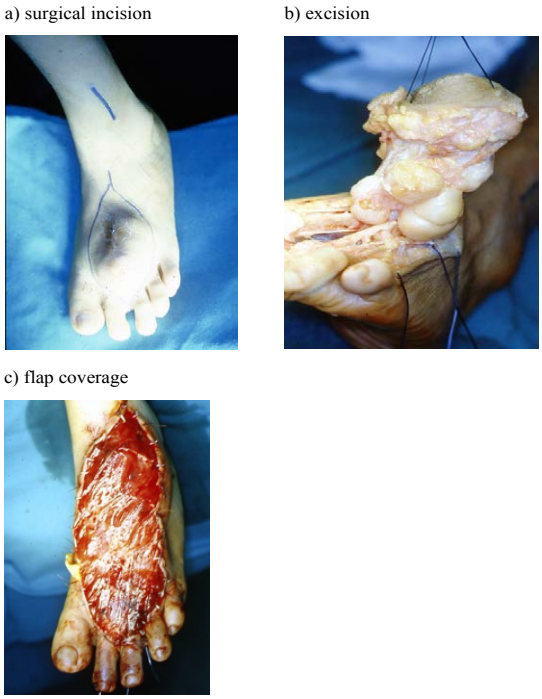

Figure 5: Surgical procedure.

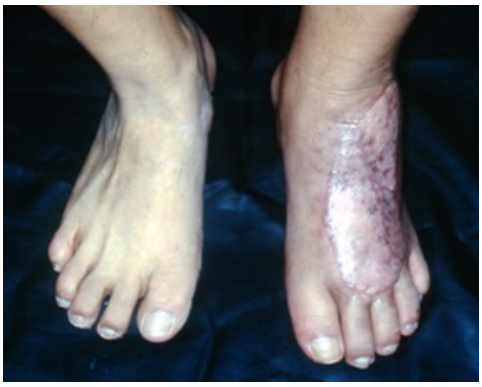

Figure 6: Postoperative presentation.

negative margins intraoperatively confirmed through frozen sections. Authors believe that a multidisciplinary team approach is mandatory for surgical tumor treatment: orthopaedic oncologist surgeons, plastic and reconstructive surgeons, and pathologists all need for a correct management of soft tissue sarcomas of the foot.

The differential diagnosis of myxoid liposarcoma includes a number of benign and malignant soft tissue lesions characterized by a myxoid stroma, such as ganglion cyst, myxoma, myxofibrosarcoma, low-grade fibromyxoid sarcoma, myxoinflammatory fibroblastic sarcoma, myxoid dermatofibrosarcoma protuberans, and extraskeletal myxoid chondrosarcoma. The correct classification of these lesions is important because of the differences in their potential for both local recurrence and metastatic spread, with the diagnoses thus influencing both surgery and adjuvant therapies. However, it should be considered that the differential diagnosis is often difficult because of overlapping histological features and the lack of a univocal immunohistochemical patterns, especially on limited tissue samples [8].

Magnetic resonance imaging is the gold standard to assess soft tissue tumors, being also helpful for the surgical planning. Myxoid liposarcomas show a low-signal intensity with liner or amorphous high signal intensity foci on T1-weighted images, and a high-signal intensity on T2-weighted images. The contrast-enhancement patterns of myxoid liposarcoma can be classified as: homogeneous, heterogeneous, and no enhancement corresponding to a cystic or necrotic appearance [9].

In conclusion, this report describes a huge myxoid liposarcoma of the forefoot that was treated with a limb salvage procedure followed by coverage plastic surgery. Limb salvage procedures for sarcomas on the foot can be successfully performed to achieve good functional outcomes.

References

1. Werd MB, DeFronzo DJ, Landsman AS, Surprenant M, Sakoff M (1995) Myxoid liposarcoma of the ankle. J Foot Ankle Surg 34: 465-474.
2. Reszel P (1966) A Liposarcoma of extremity: 222 cases. J Bone Joint Surg Am 48: 229-244.
3. Thompson DE, Frost HM, Hendrick JW, Hom RC (1971) Soft tissue sarcomas involving the extremities and the limb girdles: a review. South Med J 64: 33-44.
4. Ozaki R, Hamada K, Emori M, Omori S, Joyama S, et al. (2010) Limb salvage operation using intraoperative extracorporeal autogenous irradiated bone and tendon graft for myxoid liposarcoma on dorsum of foot. Foot 20: 90-95.
5. Thacker MM, Potter BK, Pitcher JD, Temple HT (2008) Soft tissue sarcoma of the foot and ankle: impact of unplanned exision, limb salvage, and multimodality therapy. Foot Ankle Int 29: 690-698.
6. Dei Tos AP (2000) Liposarcoma: new entities and evolving concepts. Ann Diagn Pathol 4: 252-266.
7. Nishio J, Isayama T, Yoshimura I, Ohjimi H, Iwasaki H, et al. (2012) Myxoid liposarcoma of the ankle: a case report. J Foot Ankle Surg. 51: 76-79.
8. Singhi AD, Montgomery EA (2011) Liposarcomas. Surg Pathol Clin 4: 963-994.
9. Sung MS, Kang HS, Suh JS, Lee JH, Park JM, et al. (2000) Myxoid liposarcoma: appearance at MR imaging with histologic correlation. Radiographics 20: 1007-1019.