Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Plastic Surgery

Management of Soft Tissue Sarcoma in Marrakech: About 37 Cases

Ismail Zine-Eddine[1*], Aitbenlaassel Oumnia[1], Alami Zoubeir[1], Atiqui Oum Keltoum[1], Moulay Driss Amrani[1], Benchamkha Yassine[1]

[1]Plastic Surgery Department in Mohamedvi Hospital University Marrakech, Morocco

DOI: 10.36347/sjmcr.2024.v12i01.019 | **Received:** 04.12.2023 | **Accepted:** 10.01.2024 | **Published:** 16.01.2024

***Corresponding author:** Ismail Zine-Eddine
Plastic Surgery Department in Mohamedvi Hospital University Marrakech, Morocco

Abstract **Original Research Article**

Soft tissue sarcomas (STS), comprising less than 1% of adult malignancies, pose diagnostic and therapeutic challenges due to their rarity and heterogeneity. This retrospective study spanning five years at the University Hospital Center - Mohammed VI, Marrakech, aimed to characterize the epidemiological, clinical, and histopathological profiles of 37 STS cases for standardized therapeutic insights. STS diagnoses, predominantly dermatofibrosarcoma and light cell sarcomas, exhibited symptomatic presentations such as swelling and pain. Surgical interventions, emphasizing limb-sparing techniques, thin skin transplants, and flap reconstructions, were central in the management. The average follow-up of 18 months revealed instances of local recurrence and mortality. Challenges in early diagnosis were underscored, given non-specific symptoms and delayed consultations. Multidisciplinary management involving oncologists, radiologists, pathologists, radiotherapists, and surgeons played a pivotal role. Radiological characteristics and diagnostic biopsies guided surgical interventions. The study stressed adherence to established guidelines, emphasizing sufficient surgical margins for enhanced local control. While acknowledging the complexity of STS, the conclusion emphasized a multidisciplinary approach, underscoring surgery's pivotal role. The abstract advocates for awareness campaigns to improve management in specialized centers, acknowledging the need for further research on the roles of radiation therapy and chemotherapy in STS treatment. The succinct abstract highlights key findings and recommendations for clinicians and researchers in the field.

Keywords: Multidisciplinary management, Surgical intervention, Dermatofibrosarcoma, Diagnostic biopsy, Local recurrence.

INTRODUCTION

The sarcomas of soft tissues are malignant tumors that arise in any connective tissue or body support tissue [1]. These are rare tumors, representing less than 1% of malignant tumors in adults [2]. They represent only a small part of the tumors of the soft tissue 1/200 [1, 2].

The sarcomas of soft tissues constitute a very heterogeneous group, more than 50 different histological types have been described [2]. With some histological subspecies according to the last classification of the World Health Organization (WHO), this classification called to The origin "historical", refers to differentiation by comparing the tumor to the cell type which most resembles it in the normal "analog classification" fabric [3, 4, 5], having the objective of establishing a prognosis As precise as possible, and in particular define the risks of local recurrence and remote metastasis and the most suitable therapeutic decision -making [1, 5].

The mechanism of the genesis of the sarcomas of soft tissues remains unknown, given their relative rarity which makes it difficult to determine oncogenic factors [5]. The difficulty of diagnosing the sarcomas of soft tissues is still increased by the scarcity and polymorphism of tumor syndrome [6, 7], with an ultimate risk which is to initially ignore the diagnosis, which leads to the implementation of inappropriate gestures, which can Compromise a subsequent conservative treatment, thus rendering their complex management and a severe prognosis [2].

Surgical treatment remains the basis of the curative treatment of soft tissue sarcomas and the hub of the therapeutic arsenal [1, 2]. The aim of treatment is to obtain a complete excision of the tumor and rapid healing due to adjuvant treatments such as radiotherapy [3]. The use of shreds makes it possible to respond to these two imperatives. Knowledge of the local extension mode of these tumors is essential to understand the principles that govern surgical excision [2, 8].

The sarcomas of soft tissues have a dark prognosis, their management cannot be conceived outside of a multidisciplinary concertation made up of: radiologists, surgeons, radiotherapists, anatomopathologists, medical oncologists and psychologists [2, 7].

Our study aims to determine the epidemiological, clinical particularities, the anatomo-pathological and evolutionary profile of these tumors to standardize the therapeutic approach and improve the quality of management if possible.

MATERIALS AND METHODS

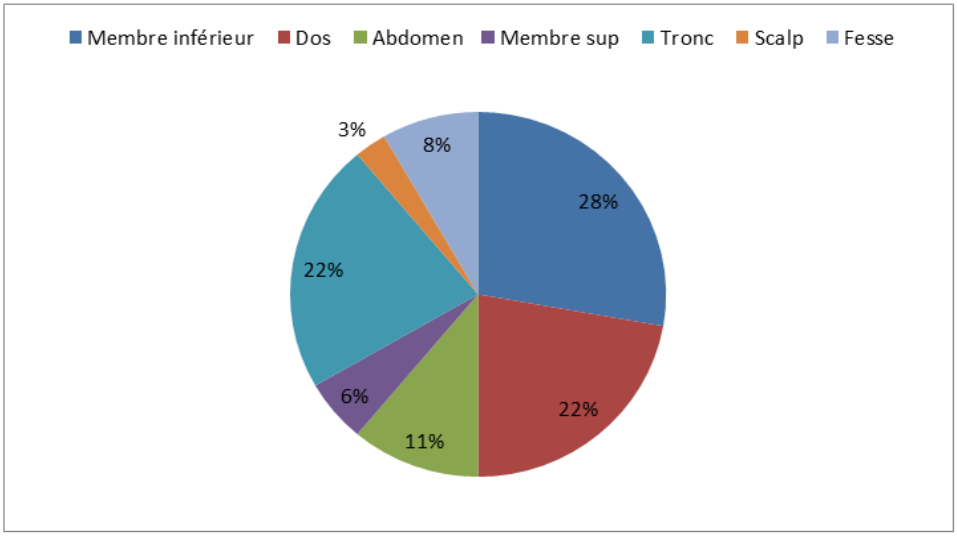
This is a retrospective descriptive study carried out in the restorative, plastic and aesthetic surgery of the University Hospital Center - (CHU) Mohammed VI of Marrakech. This study spread over a period of 5 years from January 01, 2019 to December 31, 2023.

During this period, 37 patients with soft tissue sarcoma were diagnosed and supported.

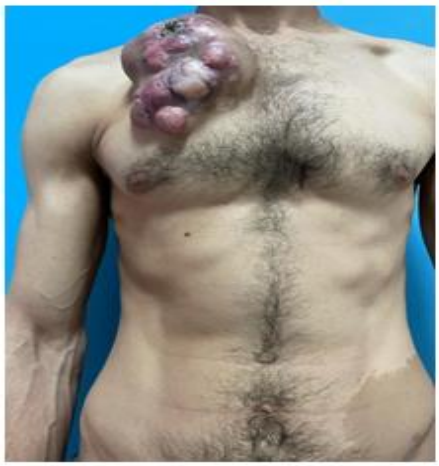
Patient data was collected from the hospital registers of the restorative, plastic and aesthetic surgery service, registers of the central operating room of the Mohammed VI CHU and then established on an operating sheet

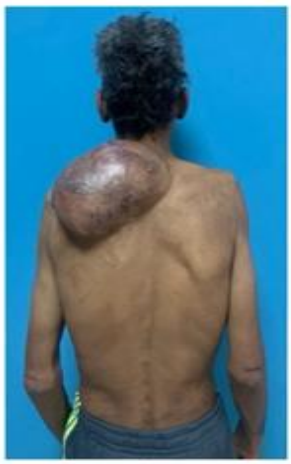
RESULTS

Among the thirty-seven patients studied, 18 men and 18 women were identified. The average age was 47.5 years (extremes ranging from 24 to 83 years). Ten tumors (28%) sat at the level of the lower limb, two at the upper limb (6%) and eight in the back (22%) (Fig 1).

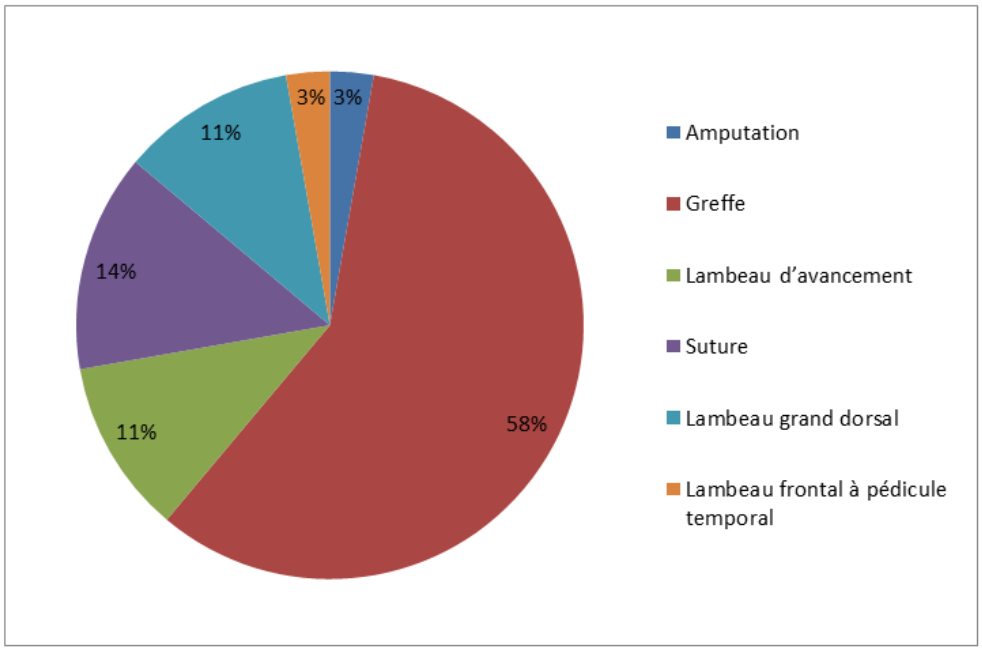


Thirty-five patients (96 %) were symptomatic during the first consultation: 35 quickly progressive swelling, 13 patients consulted for a member's pain. Thirty-six patients (100%) had a tumor of size greater than 5 cm in a large axis



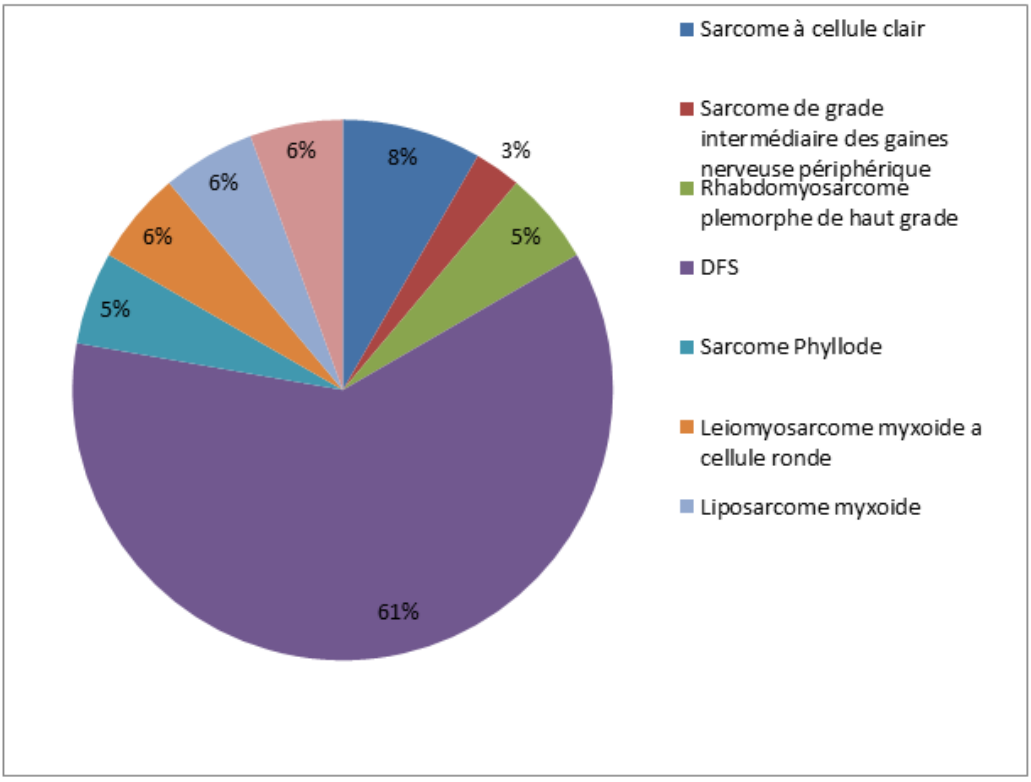


Only one patient was not operated on (refusal of surgery). Six patients (82%) benefited from preoperative imaging of the tumor with at least one MRI. 21 patient (58%) benefited from a thin skin transplant after an average of 32 days (10; 60) five patients (14%) benefited from an excision, followed by direct closure and 9 patients have had Using shreds made and an amputation has been laid, observed during clear cell sarcoma at the level of the foot (Fig 2).

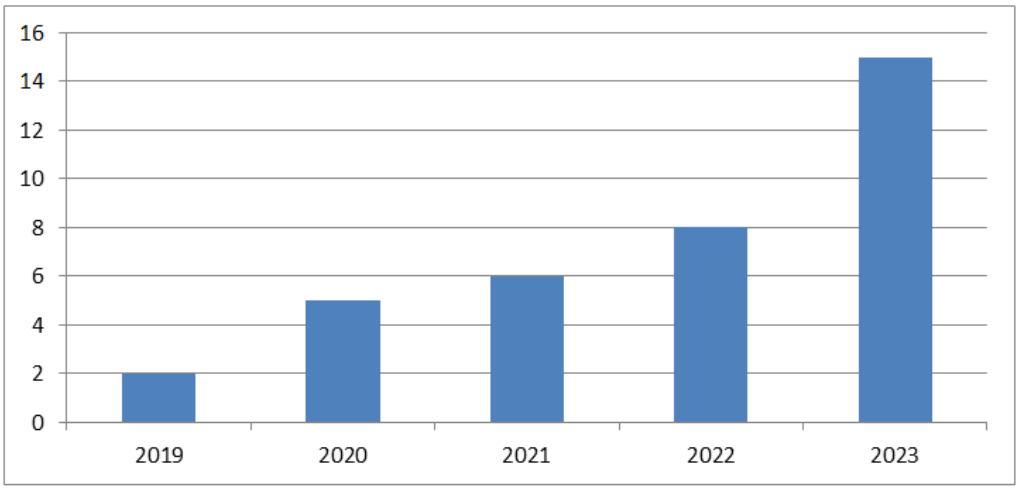


Among the postoperative complications, there were two hematomas, an infection and a failure of the pediculated flap treated by directed healing and skin graft.

The most often selected histological diagnoses were deramtofibrosarcoma (61%) and light cell sarcomas (1 = 8%), myxofibrosarcomas (6%) and two leiomyosarcoma and rhabdomyosarcoma (Fig 3).

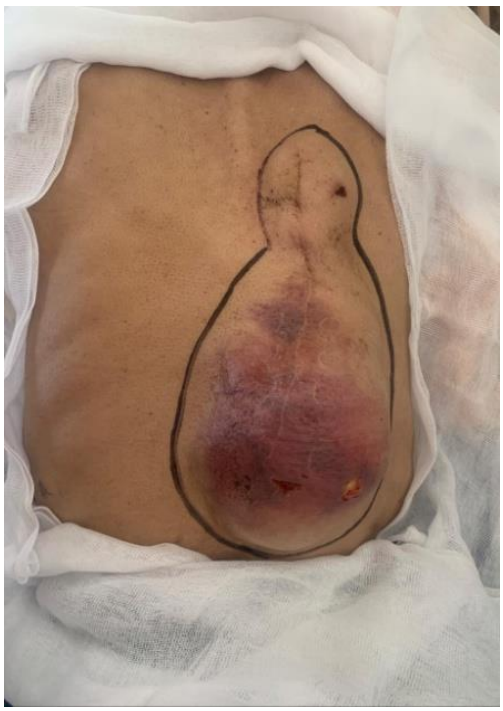


The average decline is 15 months (3-48) and the median monitoring duration of 18 months. Five patients were lost by sight and five patients died of the evolution of the disease. Twenty-six patients are in complete remission three patients presented a local recurrence. The average time of occurrence of local recurrence is 10 months (2—20) after surgery. The evolution of files during the five years of the study shows an increase in the number of cases operated (Fig 4).



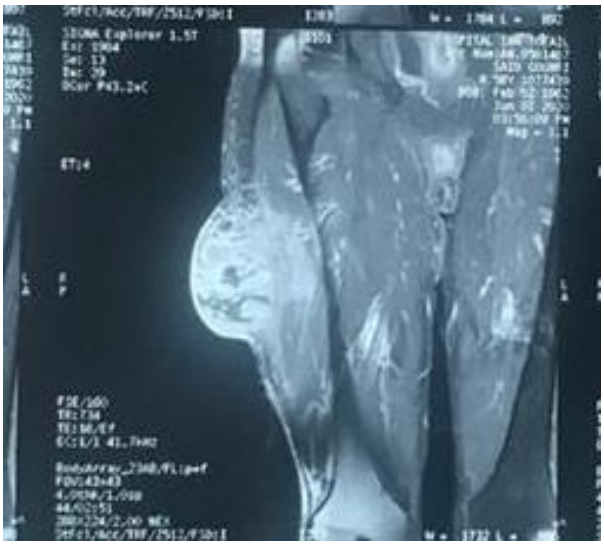
DISCUSSION

The sarcomas of soft tissues represent 1% of all cancers and severe prognosis. Clinical symptoms are non -specific; It can be a mass or manifestation linked to the various evolutionary stages of the disease. The deep locations develop at low noise which explains the delay in consultation noted in our series and which is lying in our context by the use of traditional medicine and the consultation circuit which is extended (up to 5 months). Sometimes, initial management is delayed by several months by a falsely reassuring ultrasound diagnosis (hematoma, cyst, etc.).



The management is multidisciplinary involving oncologist, radiologist, anatomopathologist, radiotherapist and surgeon gathered within RCP at each stage of management: imaging, biopsy, surgery, adjuvant or neoadjuvant treatments, follow -up. The management of STMs is well codified through standards [9] and recommendations. An ignorance of the preoperative diagnosis exposes to unsuitable surgery, heavier catch - up surgery and constitutes a real loss of luck in terms of survival. The imagery of the tumor must be the first

examination of a suspicious tumor. It often uses MRI (Fig), CT allowing a better assessment of a possible bone extension but undervalues the lesions of soft tissues. The role of the radiologist is major by orienting all suspicious tumors towards the referent center in order to avoid any unsuitable care.



Biopsy is discussed in RCP on imaging because it must be compatible with subsequent carcinological surgery.

The workforce of our series can be judged to be low with Tent-six patients, but it is a unicenter study of a single university hospital center. More important staff are found in multicenter studies, and the largest series seems to be that of Profy Blay with ten thousand four hundred and twenty-seven patients [10]. In front of any tumor, we will recall these simple rules before any surgical gesture:

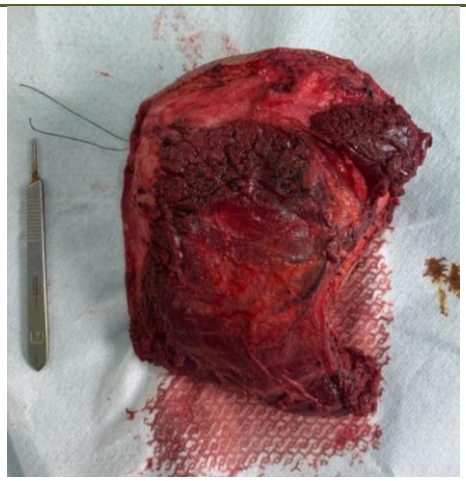
- Any deep tumor of more than 5 cm must be discussed in RCP after imaging, because the risk that the tumor is malignant is 1/7 and it must be considered malignant until proven otherwise [11];
- Any deep tumor (sub-sponsorship) must benefit from imaging above all surgical gesture;
- The persistent hematoma does not exist, a fortiori without risk factor and must make one think of the diagnosis of STM.

Peabody *et al*., [12] and Rydohlm *et al*., [13] Specify the radiological characteristics which must impose a disasters in RCP:

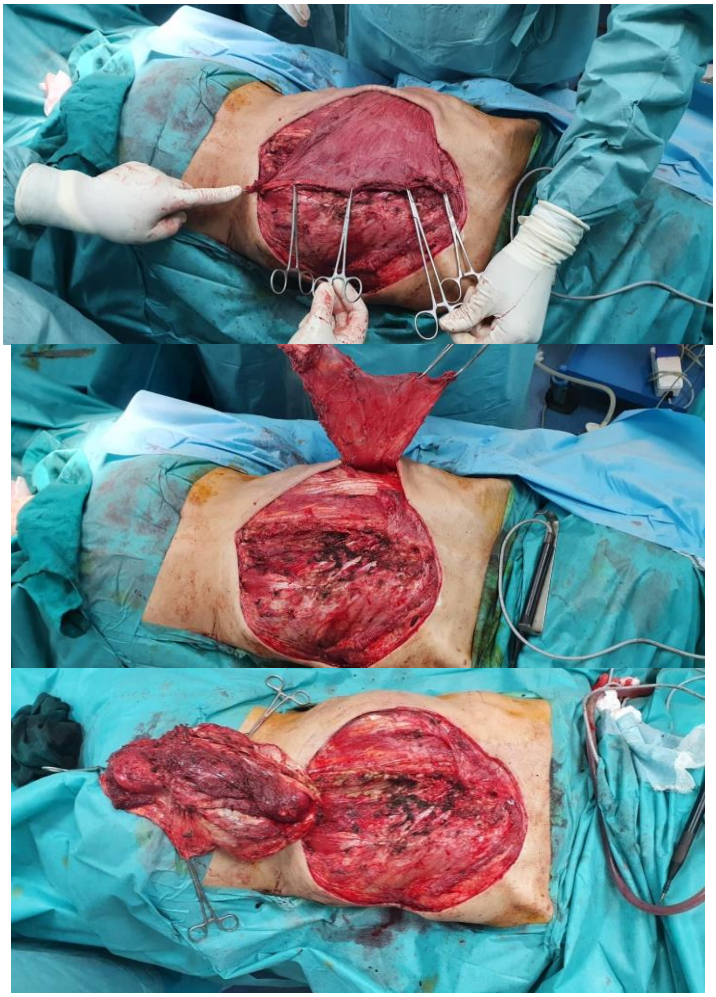
- A diameter of more than 50 mm;
- An under-sponsor localization;
- Irregular or lobule contours;
- The presence of irregular and thick walls and intratumoral septas;
- Heterogeneity on the T1 and T2 sequences;
- An early and prolonged contrast;
- The presence of necrotic zone.

In our series, six patients (16%) benefited from radiological exploration with an MRI (52% in the Ray-Coquard study and 76% in the Haddad study).

Biopsy is the first exam to carry out in the event of a suspect tumor for imaging. Surgery is the main treatment of STMs. Ideally, it must be R0, that is to say monobloc with healthy fabric margins around the tumor (or a healthy anatomical barrier) leading to performing an excision "without the tumor being seen" (Fig.) And is only designed by a team experienced in sarcomes surgery.



Surgery is planned and the use of vascular, bone reconstructions and shreds must be anticipated [14].



From Henneking, which codified in the 1980s, surgical management with compartment surgery [15, 16], the margins have been reduced thanks to the surgery - Radiotherapy association and the authors agree on minimum margins of 1 to 2 cm. Baldin *et al*., [17] have shown that margins greater than or equal to 1 cm allowed a significantly better (100 %) local control compared to margins less than 1 cm (89 %). In the event of tumor contact with the vessels or a nerve, the inclusion of the weed or the spinèvre can sometimes avoid the resection of these structures. R1 or marginal excision corresponds to enucleation and exposes the patient to a local recurrence risk of 70% due to the risk of microscopic reliquat [18]. The R2 excision corresponds to an excision of the tumor by fragmentation or with macroscopic tumor remaining. The quality of the excision is the

dominant prognosis factor in local control [19] with four multiplication of the risk of local recurrence in the event of non-R0 excision [20]. In the Ray-Coquard series, the local relapse rate in the event of R0 resection is 20 %, 26 % in the event of resection R1 and 51% in the event of R2 resection (p = 0.01) [21]. The intake of the tatters and the isolated infusion of a member has greatly reduced the indications of amputations in the case of a voluminous tumor or invading vascular axes [22, 24]. The use of flags used facilitates wide excision and healing by filling dead spaces thus reducing delays in starting adjuvant treatments [22, 23]. Radiation therapy is the main adjuvant treatment in non -metastatic STM forms. It decreases the risk of local recurrence especially for high -grade sarcomas [24, 26, 27]. Chemotherapy is prescribed in three forms: neoadjuvant, adjuvant and infusion on isolated member. This last treatment is an exceptional treatment requiring a dedicated infrastructure and associates the administration of TNF (Tumor Necroses Factor) and Melphalan [28, 29]. It can be envisaged when the tumor cannot be removed with sufficient safety margin or exposes a risk of amputation. If a meta-analysis has shown an improvement in survival without local relapse and relapse without metastasus, the incidence of chemotherapy on overall survival has not been demonstrated [30, 31] and it does not catch up with marginal surgery [32]. It can be discussed for high -risk patients with a 2 or 3 grade tumor and size greater than 5 cm. Neoadjuvant chemotherapy can be indicated in the event of a quickly scalable tumor, to reduce tumor size. Whoolley *et al*., described local recurrences until the 100th month on a study of 141 Slurling of soft tissues [33].

CONCLUSION

Despite the rarity and high risk of recidivism and local relapse, the therapeutic management of soft tissue sarcomes has been improved by scientific and technological advances which has codified their complex management which must be done in centers specialized by A multidisciplinary team, however the place of radiotherapy and chemotherapy is still poorly elucidated.

Thus the management of this type of tumor is essentially based on a meticulous clinical examination and an adapted radiological assessment, directing a diagnostic biopsy conditioning the choice of the surgical technique which must be conservative if possible, associated with adjuvant therapy if necessary.

The management of soft tissue sarcomas should only be envisaged in the context of a multidisciplinary consultation meeting and awareness work is necessary in order to improve management. Surgery is the main treatment and should be planned in complex cases. The place of the plastic surgeon is essential but may not be limited to coverage surgery.

REFERENCES

1. Société canadienne de cancer Vue d'ensemble du sarcome des tissus mous Encyclopédie canadienne du cancer (2012).
2. Fayette, J., Blay, J. Y., & Ray-Coquard, I. (2006). Les sarcomes des tissus mous: bonnes pratiques médicales pour une prise en charge optimale. *Cancer/Radiothérapie*, *10*(1-2), 3-6.
3. Binh, M. B. N., Collin, F., & Coindre, J. M. (2006). Sarcomes des tissus mous: données moléculaires actuelles. *Cancer/Radiothérapie*, *10*(1-2), 15-21.
4. Coindre, J. M. (2006). Comment classer un sarcome des tissus mous en 2006. In Annales de pathologie (Paris) (No. NOV).
5. Collin, F., Gelly-Marty, M., Binh, M. B. N., & Coindre, J. M. (2006). Sarcomes des tissus mous: données anatomopathologiques actuelles. *Cancer/Radiothérapie*, *10*(1-2), 7-14.
6. Coindre, J. M. (2006). Intérêt et limites du grade histopronostique dans les sarcomes des tissus mous. *Oncologie*, *8*, 259-260.
7. Zelek, L. (2006). La chimiothérapie des sarcomes des tissus mous. *Cancer/Radiothérapie*, *10*(1-2), 68-71.
8. Bonvalot, S., Vanel, D., Terrier, D., & Le Pechoux, C. (2004). Lecesne Principe de traitement des sarcomes des tissus mous de l'adulte EMC (Elsevier, Paris), appareil locomoteur, 44-99.
9. Standards, Options et Recommandations. Fédération Nationale des Centres de Lutte contre le Cancer. Prise en charge des patients adultes atteints de sarcome des tissus mous. de sar-come utérin ou de tumeur stromale gastro-intestinale; 2006.
10. Blay, J. Y., Le Cesne, A., Penel, N., Bompas, E., Duffaud, F., Chevreau, C., ... & Italiano, A. (2016). Improved sarcoma management in a national network of reference centers: Analysis of the NetSarc network on 13,454 patients treated between 2010 and 2014. *J Clin Oncol*.
11. Pg, C., & Blay, J. Y. (2010). EsMo/ContICanEt/EuroBonEt Consensus Panel of experts. *Soft tissue sarcomas: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. Ann Oncol*, *21*, v198-v203.
12. Nijhuis, P. H., Schaapveld, M., Otter, R., & Hoekstra, H. J. (2001). Soft tissue sarcoma—compliance with guidelines. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, *91*(11), 2186-2195.
13. Peabody, T. D., Monson, D., Montag, A., Schell, M. J., Finn, H., & Simon, M. A. (1994). A comparison of the prognoses for deep and subcutaneous sarcomas of the extremities. *JBJS*, *76*(8), 1167-1173.
14. Rydholm, A., & Berg, N. O. (1983). Size, site and clinical incidence of lipoma: factors in the differential diagnosis of lipoma and sarcoma. *Acta Orthopaedica Scandinavica*, *54*(6), 929-934.

15. Haddad, J., Gouailler, F., Aleton, E., Chaigneau, L., & Pauchot, J. (2016, August). Exérèse large d'un sarcome de l'épaule et reconstruction en un temps par double lambeau de grand dorsal et de grand dentelé pédiculé. Discussion à propos d'un cas. In *Annales de Chirurgie Plastique Esthétique* (Vol. 61, No. 4, pp. 302-306). Elsevier Masson.
16. Johnson, G. D., Smith, G., Dramis, A., & Grimer, R. J. (2008). Delays in referral of soft tissue sarcomas. *Sarcoma*, *2008*, 378574.
17. Enneking, W. F., Spanier, S. S., & Malawer, M. M. (1981). The effect of the anatomic setting on the results of surgical procedures for soft parts sarcoma of the thigh. *Cancer*, *47*(5), 1005-1022.
18. Peabody, T. D., Monson, D., Montag, A., Schell, M. J., Finn, H., & Simon, M. A. (1994). A comparison of the prognoses for deep and subcutaneous sarcomas of the extremities. *JBJS*, *76*(8), 1167-1173.
19. Enneking, W. F., Spanier, S. S., & Malawer, M. M. (1981). The effect of the anatomic setting on the results of surgical procedures for soft parts sarcoma of the thigh. *Cancer*, *47*(5), 1005-1022.
20. Flugstad, D. L., Wilke, C. P., McNutt, M. A., Welk, R. A., Hart, M. J., & McQuinn, W. C. (1999). Importance of surgical resection in the successful management of soft tissue sarcoma. *Archives of Surgery*, *134*(8), 856-862.
21. Stoeckle, E., Gardet, H., Coindre, J. M., Kantor, G., Bonichon, F., Milbéo, Y., ... & Bui, B. N. (2006). Prospective evaluation of quality of surgery in soft tissue sarcoma. *European Journal of Surgical Oncology (EJSO)*, *32*(10), 1242-1248.
22. Ray-Coquard, I., Thiesse, P., Ranchère-Vince, D., Chauvin, F., Bobin, J. Y., Sunyach, M. P., ... & Blay, J. Y. (2004). Conformity to clinical practice guidelines, multidisciplinary management and outcome of treatment for soft tissue sarcomas. *Annals of oncology*, *15*(2), 307-315.
23. Bonvalot, S., Kolb, F., Mamlouk, K., Cayalcanti, A., Le Pechoux, C., Terrier, P., ... & Le Cesne, A. (2001, May). Free-flap reconstruction of locally advanced soft tissue sarcomas. In *Annales de Chirurgie* (Vol. 126, No. 4, pp. 308-313).
24. Perrot, P., Lancien, U., Ridel, P., Gouin, F., Bodin, F., & Duteille, F. (2016, August). Utilisation d'un membre banque pour le comblement d'une perte de substance axillaire. In *Annales de Chirurgie Plastique Esthétique* (Vol. 61, No. 4, pp. 298-301). Elsevier Masson.
25. Hidalgo, D. A., & Carrasquillo, I. M. (1992). The treatment of lower extremity sarcomas with wide excision, radiotherapy, and free-flap reconstruction. *Plastic and reconstructive surgery*, *89*(1), 96-101.
26. Bonvalot, S., Rimareix, F., Paumier, A., Roberti, E., Bouzaiene, H., & Le Péchoux, C. (2010). Actualisation de la stratégie thérapeutique locorégionale dans les sarcomes des tissus mous et les tumeurs desmoïdes des membres. *Cancer/Radiothérapie*, *14*(6-7), 455-459.
27. Le Péchoux, C., Bonvalot, S., Le Cesne, A., Roberti, E., Vanel, D., Terrier, P., ... & Habrand, J. L. (2006). Place et techniques de radiothérapie dans le traitement des sarcomes des tissus mous de l'adulte. *Cancer/Radiothérapie*, *10*(1-2), 50-62.
28. Bonvalot, S., Laplanche, A., Lejeune, F., Stoeckle, E., Le Péchoux, C., Vanel, D., ... & Le Cesne, A. (2005). Limb salvage with isolated perfusion for soft tissue sarcoma: could less TNF-α be better?. *Annals of oncology*, *16*(7), 1061-1068.
29. Germain, M. A., Bonvalot, S., Rimareix, F., & Missana, C. M. (2010). Locally advanced soft-tissue sarcomas. An innovating triad to avoid amputation: isolated limb perfusion, TNFalpha, and free microsurgical flap. *Bulletin de L'academie Nationale de Medecine*, *194*(1), 51-65.
30. Rosenberg, S. A., Tepper, J. O. E. L., Glatstein, E. L. I., Costa, J. O. S. E., Baker, A. L. A. N., Brennan, M. U. R. R. A. Y., ... & Wesley, R. O. B. E. R. T. (1982). The treatment of soft-tissue sarcomas of the extremities: prospective randomized evaluations of (1) limb-sparing surgery plus radiation therapy compared with amputation and (2) the role of adjuvant chemotherapy. *Annals of surgery*, *196*(3), 305-315.
31. Creech Jr, O., Krementz, E. T., Ryan, R. F., & Winblad, J. N. (1958). Chemotherapy of cancer: regional perfusion utilizing an extracorporeal circuit. *Annals of surgery*, *148*(4), 616-632.
32. Woll, P. J., Reichardt, P., Le Cesne, A., Bonvalot, S., Azzarelli, A., Hoekstra, H. J., ... & Hohenberger, P. (2012). Adjuvant chemotherapy with doxorubicin, ifosfamide, and lenograstim for resected soft-tissue sarcoma (EORTC 62931): a multicentre randomised controlled trial. *The lancet oncology*, *13*(10), 1045-1054.
33. Whooley, B. P., Mooney, M. M., Gibbs, J. F., & Kraybill, W. G. (1999, July). Effective follow-up strategies in soft tissue sarcoma. In *Seminars in surgical oncology* (Vol. 17, No. 1, pp. 83-87). New York: John Wiley & Sons, Inc..