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Small Cell Lymphoma of the Gastrocnemius Muscle: A Case Report

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Abstract

Introduction: The primary localization of non-Hodgkin lymphoma of the muscle is rare. Only the biopsy allows the certainty diagnosis. The aim was to report a first case of small cell lymphoma of the gastrocnemius in Mali and to do a review of the literature. **Clinical Observation:** It was about a 34-year-old woman who consulted 3 months after the onset of symptoms for swelling and pain in the left calf. On clinical examination there was a hard, painful and warm mass in the left calf, with paresthesias in the tibial nerve territory associated with partial functional impotence of the leg. The ultrasound revealed a hyper echogenic and heterogeneous non-vascularized mass of the left gastrocnemius muscle measuring 65 × 45 × 40 mm non-vascularized on color Doppler and pulsed in favor of myositis. Magnetic resonance imaging (MRI) concluded in a well-limited heterogeneous cystic mass in the left gastrocnemius muscle respecting the bone of benign appearance: remodeled Baker's cyst? Considering the radioclinical unconformity, thoraco-abdominal CT was performed and revealed pulmonary metastasis. The biopsy carried out concluded with a small cell lymphoma of the gastrocnemial muscle. Marginal resection was performed associated with adjuvant chemotherapy. The advancement at 9 months was satisfactory.

Keywords

Small Cell Lymphoma, Marginal Muscle Gastrocnemius, Excision, Adjuvant Chemotherapy, Evolution, Mali

1. Introduction

The primary localization of non-Hodgkin's lymphoma of the muscle is rare [1]. The locations of malignant lymphomas in striated muscles are exceptional. They are observed in less than 1.5% of cases. Muscular lymphomas can simulate thrombophlebitis [2] [3]. Muscular anatomopathological examination, coupled with immunostaining, is essential. It not only allows the diagnosis to be made formally, but also classifies the different muscle types [4] from which the therapeutic management will derive. The standard treatment combines surgical excision of the tumor and chemotherapy, sometimes followed by radiotherapy [5]. The aim was to report a first case of small cell lymphoma of the gastrocnemius muscle in Mali and to review the literature.

Clinical observation: This was a 34-year-old woman who consulted 3 months after the onset of symptoms for pain and swelling of the left calf. It was an inflammatory pain. On clinical examination, a hard, painful and hot mass of the left calf was noted, adherent to the adjacent planes (**Figure 1**).

This mass was associated with paresthesias in the tibial nerve territory and partial functional impairment of the leg. The ultrasound performed revealed a hyper-echoic and heterogeneous non-vascularized mass of the left gastrocnemius muscle measuring 65 × 45 × 40 mm, non-vascularized on color Doppler and pulsed in favor of myositis. Magnetic resonance imaging (MRI) of the left leg revealed a large oval mass, developed at the expense of the medial gastrocnemius muscle, measuring 212 mm in transverse diameter, 103 mm in anteroposterior diameter and 139 mm in height. It presents as a heterogeneous T1 hyposignal with areas of haemorrhagic changes, as a heterogeneous T2 hypersignal with no loss of sign after sequence of fat suppression. There is a small infiltration of the subcutaneous tissue in places of reaction pace.

Conclusion: well-defined heterogeneous cystic mass in the left gastrocnemius muscle respecting the bony plane of a benign appearance (**Figure 2**): Remodeled Baker's cyst?

In the extension assessment and given the radioclinical discrepancy, the thoraco-abdominal CT scan was performed and revealed pulmonary metastases (**Figure 3**).

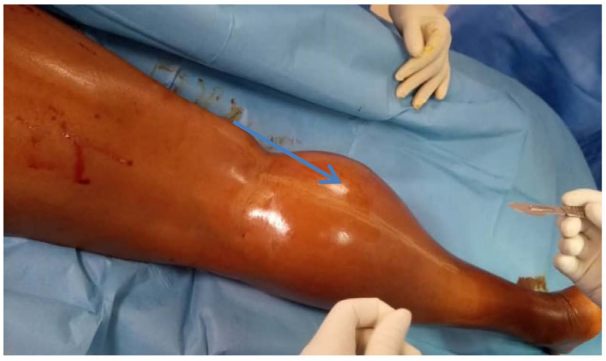


Figure 1. Hard swelling of the left calf.

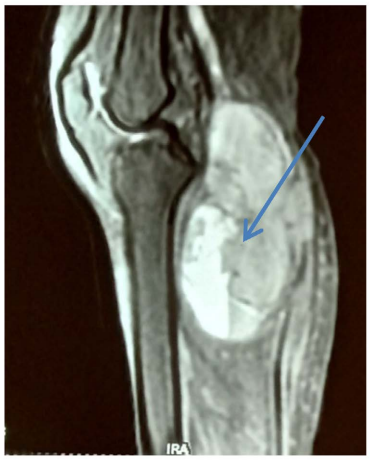


Figure 2. MRI of the left leg showing a heterogeneous mass respecting the bone.

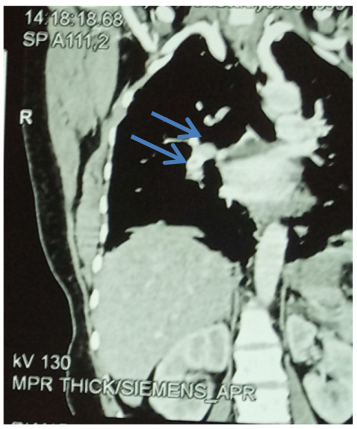
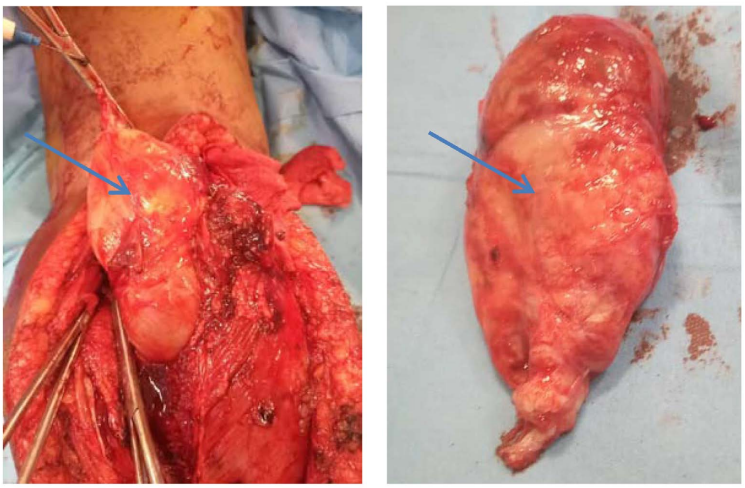


Figure 3. CT scan of the thorax: showing nodules of lung metastases.

A first surgical biopsy had been performed but inconclusive. A marginal resection biopsy of the medial gastrocnemius muscle of the left leg was performed (**Figure 4**).

Anatomopathological examination: macroscopically three fragments were observed, the largest of which measures 18 × 9 × 5 cm and the smallest 12 × 8 × 5 cm with a consistency sometimes firm, sometimes renitent. When cut, one of the fragments is the site of a cystic formation, measuring 7 cm long axis with solid and polychrone content. The wall is sometimes thin, sometimes thick, measuring 1.5 cm. When cut, the other fragments are the seat of a multi-nodular and necrotic tumor formation. Histologically, the fragments examined are the seat of a tumoral proliferation made up of sheets of cells whose size is average. The nuclei show anisokaryosis, hyperchromatism with sometimes an incision. Mitoses are quite numerous. On the periphery, there are vast sectors of fibrosis containing a few remnants of glands without atypia. In conclusion: histological aspect of a small cell lymphoma of the gastrocneal muscle. The surgery was associated with adjuvant chemotherapy made up of 6 courses of Ondasetron 8 mg and cortancyl 20 mg. The evolution at 9 months was satisfactory (**Figure 5**).



(a) (b)

Figure 4. Surgical biopsy-resection view of the tumor at the expense of the medial gastrocnemius muscle (a) and surgical specimen (b).

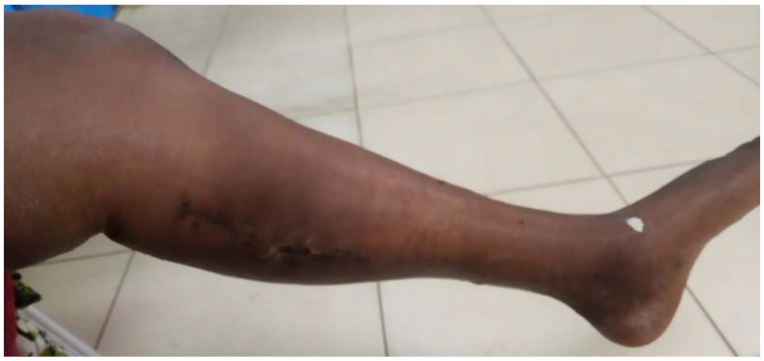


Figure 5. Postoperative image at 9 months.

However, this evolution must be reviewed in multidisciplinary consultation, hence the merit of our work.

2. Discussion

In our research, no case of small cell lymphoma of the gastrocnemius muscle has been described

The incidence of primary muscle lymphoma is 8/7000 malignant lymphomas [6]. Primary extranodal lymphomas in the soft tissues are rarely observed [7]. The primary muscle localizations of malignant non-Hodgkin's lymphoma are exceptional [1] [4] [7] [8]. Our observation corroborates these assertions since it is the first case of muscular lymphoma observed here in Mali. Primary muscular lymphomas occur mainly in men, with an average age of 68 years [4] [5]. On the other hand, we found in the young female subject. Muscular lymphomas are preferentially located in the lower limbs [6] [9]. The clinical picture is not unequivocal and the symptomatology depends on the location. Swelling and febrile syndrome are common. Muscle lymphomas can mimic thrombophlebitis [2] [3]

[10]. They may be responsible for compartment syndrome [11]. MRI is sensitive for detecting muscle locations of lymphomas and offers excellent differentiation of tissue lesions [10] [12] [13] [14]. In our case, the MRI did not show any lesions suggestive of a malignant muscle tumor apart from a skin infiltration. Faced with clinical signs suggestive of tumor malignancy, a thoracoabdominal CT scan was performed as part of the extension assessment which revealed pulmonary metastases. In the literature, CT scans of the thorax and abdominopelvic performed in search of metastatic dissemination have not detected any metastases [5] [8] [9]. Non-Hodgkin's lymphoma is rarely found in soft tissues. Differential diagnosis with other soft tissue tumors, especially sarcoma, is difficult. Definitive diagnosis is based on histological examination of a biopsy of the tumor [5] [8] [9]. In our case, the diagnosis of small cell muscle lymphoma was established after performing an excisional biopsy of the tumor given an inconclusive first biopsy and in the face of a compressive syndrome. In the literature, large cell lymphomas are the most frequent [2] [4] [9]. The treatment of muscular lymphomas, although unequivocal, can only be conceived in a multidisciplinary framework (associating orthopaedist, radiologist, pathologist, oncologist and radiotherapist). These chemo-sensitive tumors are sometimes treated with chemotherapy alone [4] [9], sometimes the standard treatment combines surgical excision of the tumor, chemotherapy and radiotherapy [5] [8]. Our case was treated according to Enneking by marginal excision of the tumor and adjuvant chemotherapy. Overall, the prognosis for primary muscle lymphomas is poor [6], and for non-Hodgkin's small cell lymphomas, the prognosis is good because of low malignancy. In our situation, the tumor was discovered with lung metastases 6 months from the start of the symptoms. The evolution at 9 months was satisfactory. The question arises: should the histology be reviewed, or is it a particularity of small cell muscle lymphoma? Is this an exceptional case of small cell lymphoma of the gastrocnemius muscle?

However, the evolution must be reviewed in multidisciplinary consultation, hence the merit of our work.

3. Conclusion

Small cell muscle lymphoma of the leg is rare and occurs in young people. The clinical symptomatology is diverse. MRI sometimes rarely shows signs of tumor malignancy. The diagnosis is histopathological. Small cell muscle lymphoma can grow rapidly and be complicated by lung metastases. The treatment is multidisciplinary. Treatment combines surgery and chemotherapy. The course of small cell lymphoma of the gastrocnemius muscle can be unpredictable.

Consent

The authors certify that they have obtained the consent of the patient. The patient gave consent for her images and other clinical information to be reported in the journal.

Conflicts of Interest

The authors declare that there is no conflict of interest.

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