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Case Report

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GIANT CELL TUMOR (GCT) OF THE SOFT PARTS (PM) OF THE THIGH: REPORT OF A CASE AND REVIEW OF THE LITERATURE

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ABSTRACT

Giant cell tumor of soft tissues is rare and represents only 1.6% of all soft tissue tumors. We report the case of a 51-year-old patient with no notable history who consulted for painful swelling of the antero-internal aspect of the lower third of the right thigh. The aim of this study was to clarify the epidemiological, diagnostic, therapeutic and prognostic aspects TCG of soft parts at Rabat University Hospital.

KEYWORDS: TCG – Tight.

INTRODUCTION

It is a benign fibrous mass developing in the peritendinous sheaths but can also occur at a distance from these sheaths.

It affects all ages with a peak frequency between the third and fifth decade.[1,3]

Initially described in 1972 in 2 series simultaneously. On the one hand, Slam and Sissons reported 10 cases of benign soft tissue GCTs with characteristics identical to bone GCTs; on the other hand, Guccion and Enzinger described a series of 32 cases of tumors rich in osteoclastic giant cells of soft tissues.[1,4]

Currently according to the 2002 WHO classification, this terminology must be reserved for soft tissue tumors whose clinical behavior and histological appearance are comparable to that of primary giant cell tumors of bone.[5]

MATERIALS AND METHODS

The authors report the case of a 51-year-old patient with no notable history who consulted for painful swelling of the antero-internal aspect of the lower third of the right thigh that had been present for 1 year without any notion of trauma with a notion of recent alteration of the general condition and unquantified weight loss.

The examination reveals a supra-condylar antero-internal oval swelling measuring 8 by 11cm, of firm consistency, fixed in relation to the deep plane, painless on palpation, non-pulsing, without local inflammatory signs or satellite lymphadenopathy.

RESULTS

Standard radiography shows an antero-internal soft tissue mass without periosteal reaction.

MRI shows a heterogeneous tissue tumor measuring 13 x 10 x 5 cm with heterogeneous hyposignal on T1 sequences and heterogeneous hyposignal on T2 sequences taking gadolinium in a heterogeneous manner with a hemorrhagic component in the center of the tumor, located at the level of the crural and vastus medialis in contact with the anterior cortex of the femur and invading the knee joint. (Figures 1 and 2).

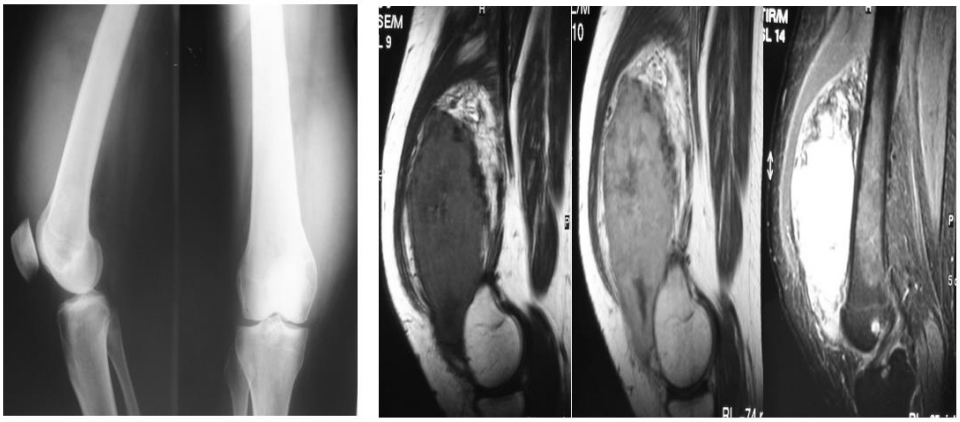

Fig. 1, 2: Standard radiography showing antero-internal soft tissue mass without periosteal reaction, and MRI: Heterogeneous tissue tumor measuring 13 x 10 x 5 cm.

The extension assessment (thoraco-abdominal CT scan and bone scintigraphy) did not reveal any metastasis.

A surgical biopsy was done.

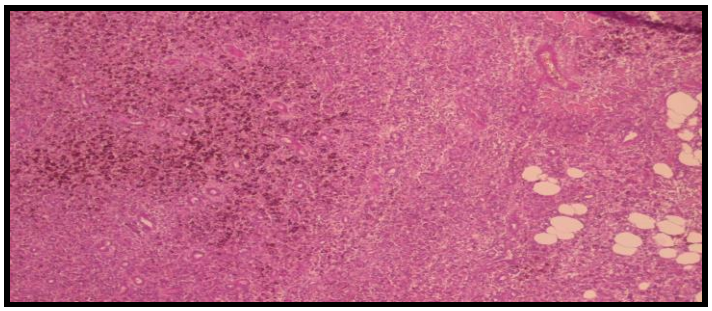

Fig. 3: Small tumor cells with a monomorphic histiocytoid appearance.

It is associated with a few osteoclast-type giant cells as well as rare clusters of foamy histiocytes.

The pathological examination showed a tenosynovial giant cell tumor in its diffuse form.

The patient then had an bloc resection of the tumor and the pathological examination of the resection specimen confirmed the diagnosis as well as the healthy limits of the resection. (Figures 3, 4).

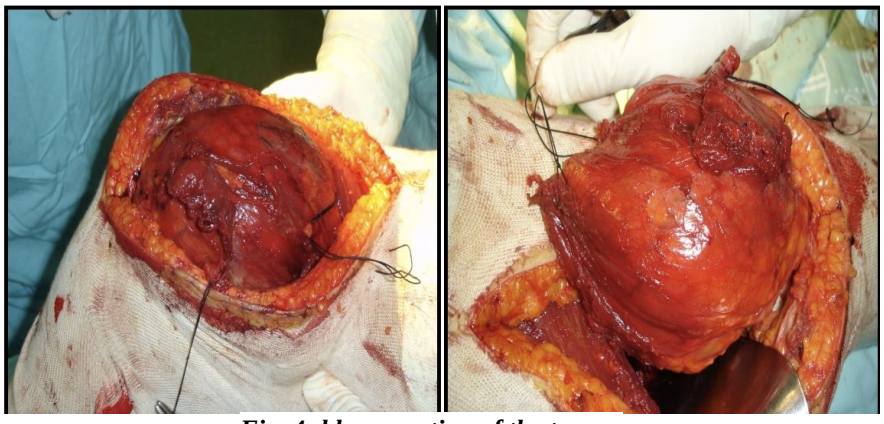

Fig. 4: bloc resection of the tumor.

The evolution is favorable with absence of recurrence and the appearance of metastasis two years post-operatively.

DISCUSSION

Giant cell tumors of soft tissues represent a rare entity of recent description.

The age of onset ranges from 5 to 80 years without predominance depending on sex.[1,3]

They electively affect the limbs and more particularly the lower limbs, but also the trunk and the neck.

These are usually slow-growing, painless tumors.[3]

They are generally well circumscribed, readily limited by a pseudo-capsule, located mainly above the superficial aponeurosis but can invade the underlying muscle[2] as in the case of our patient where the tumor invaded the crural muscle.

MRI is the reference examination; it typically shows a T1 and T2 hypo signal mass which enhances after gadolinium injection.[8,10,11]

Most soft tissue GCTs reported in the literature present a benign outcome provided they are treated by complete surgical excision with sufficient margins.[5,6,7]

A few cases of lung and tongue metastases have been reported in patients with insufficient excision limits.

Pathologically, soft tissue GCTs are frequently multinodular and are composed of two main cell types: mononucleated stromal cells and multinucleated osteoclast-type giant cells.[2]

The differential diagnosis arises with tumors rich in osteoclastic-type giant cells.[3,6]

It is of course necessary to eliminate extension to soft tissues of a bone TCG by clinical and imaging.[2]

Diffuse soft tissue GCT is easily distinguished from localized tendon sheath GCT: small nodular tumor appending to the tendon sheath along the wrists and fingers. In the diffuse form, these are larger and more aggressive tumors which are readily localized in the large joints of the limbs such as the knee and ankle.[8,9]

Microscopically, the cell population is more heterogeneous and includes layers of foamy histiocytes, giant cells associated with areas of hyaline sclerosis.[2]

Even if it is a benign tumor, the local recurrence rates reported in the literature vary between 10 and 20% at an average of 24 months after surgical resection.[12]

The local recurrence rate can reach 45% in cases of incomplete surgical resection.[13]

Adjuvant local radiotherapy at a dose of 20 Gy is recommended in cases of incomplete surgical resection in order to prevent local recurrence.[14]

Most soft tissue GCTs reported in the literature therefore present a benign outcome provided they are treated by complete surgical excision with sufficient margins.[5,6,7] The vital prognosis is rarely compromised by pulmonary metastases. In his series of 16 cases, Olivera et al reported a single case of local recurrence and pulmonary metastases leading to the death of the patient one year after surgical resection.

Soumaya Ech-Charif et al also report a case of death following pulmonary metastases in a 49-year-old man eighteen months after resection of a GCT of the thigh.

The WHO currently recognizes the entity of soft tissue giant cell tumor as a tumor with a good prognosis, very similar to conventional bone GCTs.[2]

CONCLUSION

Giant cell tumor of soft tissues is rare and represents only 1.6% of all soft tissue tumors.

MRI is the reference examination for the study of these tumors.

The diagnostic certainty remains histological and allows us to contrast the localized form with the more aggressive diffuse form requiring different treatment.

Giant cell tumors of softs tissus are generally benign tumors provided they are treated by complete surgical excision with sufficient margins.

Adjuvant radiotherapy should be indicated in cases of incomplete resection.

Long-term monitoring of diffuse forms is necessary given the risk of pulmonary metastases.

BIBLIOGRAPHY

1. Salm R, Sissons HA. Giant-cell tumor of soft tissues. J pathol, 1972; 107: 27-39.
2. Soumaya Ech-Charif, Sébastien Aubert and al. Tumeur à cellules géantes des tissus mous. Ann Pathol, 2006; 26-9.
3. Fletcher CD. Giant cell tumor of soft tissue. In: Tumors of soft tissue and bone. World Health Organisation. Lyon, 2002.
4. Guccion JG, Enzinger FM. Malignant giant cell tumor of soft parts. An analysis of 32 cases. Cancer, 1972; 29: 1518-29.
5. Oliveira AM. Dei Tos AP. Fletcher CD. Nascimento AG. Primary giant cell tumor of soft tissues: a study of 22 cases. Am J Surg Pathol, 2000; 24: 248-56.
6. Rodriguez-Perato JL, Lopez-Barea F, Fernandez Delgado J. Primary giant cell tumor of soft tissues similar to bone gient cell tumor: a report and literature review. Pathol Int., 2001; 51: 60-3.
7. Flope AL, Morris RJ, Weiss SW. Soft tissue giant cell tumor of low malignant potential: a proposal for the reclassification of malignant giant cell tumor of soft parts. Mod Pathol., 1999; 12: 894-902.
8. Ofir Chechik, M.D, Eyal Amar, M.D, Morsi Khashan, M.D and Guy Morag, M.D. Giant Cell Tumors in the Patellar Tendon Area: A case report. The journal of knee surgery, 2010; 23: 115-9.
9. Hepp P, Engel T, Marquass B, Aigner T, Josten C, Niederhagen M. Infiltration of the pes anserinus complex by an extraarticular diffuse-type giant cell

tumor (D-TGCT). Arch Orthop Trauma Surg., 2008; 128: 155–158.
10. Jelinek JS, Kransdorf MJ, Shmookler BM, Aboulafia AA, Malawer MM. Giant cell tumor of the tendon sheath: MR findings in nine cases. AJR Am J Roentgenol., 1994; 162: 919–922.
11. Kitagawa Y, Ito H, Amano Y, Sawaizumi T, Takeuchi T. MR imaging for preoperative diagnosis and assessment of local tumor extent on localized giant cell tumor of tendon sheath. Skeletal Radiol., 2003; 32: 633–638.
12. Ushijima M, Hashimoto H, Tsuneyoshi M, Enjoji M. Giant cell tumor of the tendon sheath (nodular tenosynovitis). A study of 207 cases to compare the large joint group with the common digit group. Cancer., 1986; 57: 875–884.
13. Lu KH. Arthroscopic excision of juxta-articular giant-cell tumor arising from the patellar tendon sheath. Arthroscopy, 2004; 20: eE35–eE38.
14. Kotwal PP, Gupta V, Malhotra R. Giant-cell tumour of the tendon sheath. Is radiotherapy indicated to prevent recurrence after surgery? J Bone Joint Surg Br., 2000; 82: 571–573.