LEIOMYOSARCOMA OF THE LOWER LIMB PRESENTING AS A BENIGN MASS: A CASE REPORT

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ABSTRACT

Introduction: Soft tissue sarcomas are rare tumours that often present with pain, increasing size and a location deep to the fascia. If they do not present with the aforementioned symptoms and signs, delayed diagnosis can occur.

Case presentation: We present an unusual case of a fifty one year old patient who presented with clinical features of a benign mass of the lower limb that turned out to be a soft tissue sarcoma – a leiomyosarcoma.

Conclusion: Medical practitioners must consider the possibility of soft tissue sarcoma in patients that present with a benign looking mass. Diagnostic imaging can be inconclusive on these cases and definite diagnosis is made upon histological examination. Treatment includes surgery and radiotherapy.

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INTRODUCTION

Soft tissue sarcomas are rare tumors that often present with pain, increasing in size and a location deep to the fascia. If they do not present with the aforementioned symptoms and signs, delayed diagnosis can occur.

METHODS AND MATERIALS

A 51 year old male patient presented with 5 years history of a lump about 5 cm in size, around the left tibial tubercle subcutaneously, firm and mobile, not tender, or translucent.

The asymptomatic patient had full and pain free range of motion. A year later the lump became itchy and symptomatic.

A MRI scan showed a well-defined lump within the subcutaneous fat medial to the tibial tuberosity.

An ultrasound scan showed a solid/soft tissue lesion.

The differential diagnosis included: soft tissue chondroma, giant cell tumor of tendon sheath and synovial sarcoma. A Tru-cut biopsy was performed.

Histology a high grade leiomyosarcoma. He underwent a formal surgical . Received postoperative radiotherapy. The patient remains disease free.

RESULTS

LMS is a rare smooth muscle malignant tumor. It occasionally presents with features of a benign tumor and can be diagnosed as a lipoma, soft tissue chondroma, leiomyoma, fibroma, or a giant cell tumor. Diagnostic imaging can be inconclusive and definite diagnosis can be made on histological examination. Treatment includes surgical excision and radiotherapy.

DISCUSSION 1

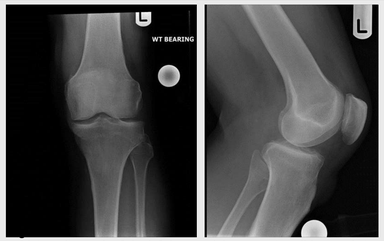
Leiomyosarcoma (LMS) is a rare malignant tumor of smooth muscle that often presents in the lower limb. Whilst there are several cases of dermal LMS infiltrating the subcutaneous fat, cases of LMS arising in the subcutaneous fat are rare [2,3]. They originate in the smooth muscle of vessel walls [4, 5]. Superficial leiomyosarcoma can affect any age group although it is exceedingly rare in children. It is slightly more likely to occur in the male population [5].

The general characteristics of most soft tissue sarcomas are that they are painful, they increase in size, are located deep to the superficial fascia and are relatively large.

Superficial leiomyosarcomas (SLMS) – i.e. those that arise in the dermis or subcutaneous tissue – accounts for only 2–3% of all soft tissue sarcomas, with an overall incidence of 0.04% [5].

These tumors, contrary to the general characteristics of most soft tissue sarcomas, are painless and movable by palpation in many cases and therefore they are often misdiagnosed as benign tumors such as lipoma, soft tissue chondroma, leiomyoma, fibroma or a giant cell tumor. Hence, care should be taken to avoid a delay in diagnosis and treatment.

However, some patients have reported pain or tenderness on palpation, and recent accelerated growth [5]. Diagnosis is normally made following histological investigation, using immunohistochemical stains to prove smooth muscle differentiation [2,5,6].

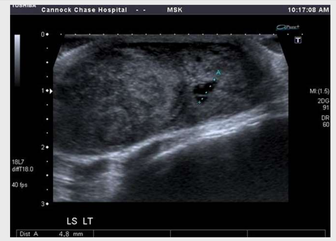


A plain radiograph of the left knee : (a) AP view, (b) Lateral view

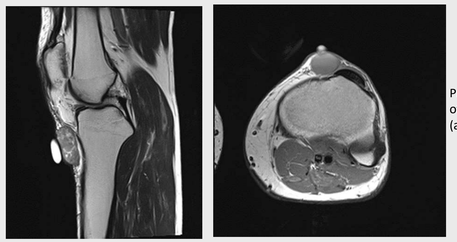
DISCUSSION 2

Prognosis for a SLMS with subcutaneous involvement is poor, as the tumors tend to be high grade malignancies [5, 7]. Local recurrence occurs in as many as 50-70% of cases, metastases occur in 40-60% of cases and mortality is as high as 30-40% [5]. Prognostic features with a higher mortality rate include increased size of tumor, a high malignancy grade, extended tumor necrosis, and American Joint Committee on Cancer (JACC) staging [6].

Treatment of leiomyosarcoma commonly involves local excision of the tumor with significant clear margins [5, 8, 9]. They do not respond well to either radiation or chemotherapy [10]. In our case, postoperative radiotherapy was given as recommended by the multidisciplinary team members because of the marginal resection margins. Long-term clinical follow up is recommended due to the high potential of local recurrence and metastasis [5].



An Ultrasound image of leiomyosarcoma of the left knee



Pre-operative magnetic resonance images of leiomyosarcoma of the left knee
(a) sagittal image, (b) axial image

CONCLUSIONS

Medical practitioners must consider the possibility of soft tissue sarcoma in patients that present with a benign looking mass. Diagnostic imaging can be inconclusive on these cases and definite diagnosis is made upon histological examination. Treatment includes surgery and radiotherapy.

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