Case Report

Soft-Tissue Sarcoma Masquerading as a Haematoma

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Abstract

Sarcomas commonly occur in the buttock and thigh, although the clinical presentation varies with no specific symptoms other than a painless lump. This case study reports on a soft-tissue sarcoma that was initially thought to be a haematoma on ultrasound, despite being rescanned 6 weeks later. The patient presented back to their general practitioner 8 months later with the subsequent ultrasound showing an irregular and hypervascular soft-tissue mass. Further imaging and ultrasound-guided biopsy led to a surgical excision of a myxofibrosarcoma. This case demonstrates the difficulty of differentiating between a haematoma and sarcoma, especially in patients presenting with a history of trauma.

Keywords: Haematoma, musculoskeletal ultrasound, sarcoma, thigh mass

Introduction

Patients presenting with a soft-tissue lump are commonly encountered in clinical practice, and the vast majority of these are benign, with one study reporting that 95% of patients from primary care referred for imaging of a potential sarcoma had either benign or noncancerous lesions.[1] Sarcomas account for 1% of all cancers with a 5-year survival rate of around 50%.[2] Guidelines dictate an urgent direct access ultrasound scan should be performed within 2 weeks to assess adults presenting with an unexplained lump that is painful, >50 mm, increasing in size, or deep to the fascia to exclude a sarcoma.[3]

This case study reports on a soft-tissue sarcoma, which was initially thought to be a haematoma on ultrasound. A detailed study of the patient history, clinical care pathway, diagnostic imaging, and discussion of the clinical features of soft-tissue sarcomas mimicking haematomas are presented.

Case Report

The patient was a 68-year-old male referred by his general practitioner (GP) for a soft-tissue ultrasound scan of his left thigh. He presented with a 3-month history of a left thigh lump following trauma. The patient described walking into a corner of a table with bruising and a lump. The bruising had disappeared, although the lump had persisted. The lump was not increasing in size or painful.

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The ultrasound scan showed a well-defined and ovoid hypoechoic abnormality in the subcutaneous tissues containing internal echoes [Figures 1 and 2]. There was no internal Doppler flow, and this was compressible to probe palpation. Given the history of trauma, the appearances could represent a haematoma, although a repeat ultrasound scan was advised in 6 weeks to assess for resolution. The repeat ultrasound scan after 6 weeks showed no interim changes of the abnormality and was reported as a haematoma [Figures 3 and 4].

The patient presented back to their GP 8 months following the last ultrasound scan as the lump had increased in size and painful with no new injury or history of anticoagulation. The patient was referred for another soft-tissue ultrasound scan showing an irregular and complex abnormality with marked internal Doppler flow [Figures 5 and 6]. The appearances were suspicious of a soft-tissue tumor, and the patient had a magnetic resonance imaging (MRI) scan for further assessment. The MRI scan showed a soft-tissue tumour with peritumoral edema in the subcutaneous tissues, suspicious for a malignancy [Figures 7 and 8].

The patient was subsequently referred to a regional sarcoma center and had an ultrasound-guided biopsy [Figure 9]. The histology gave a definitive diagnosis as a myxofibrosarcoma.

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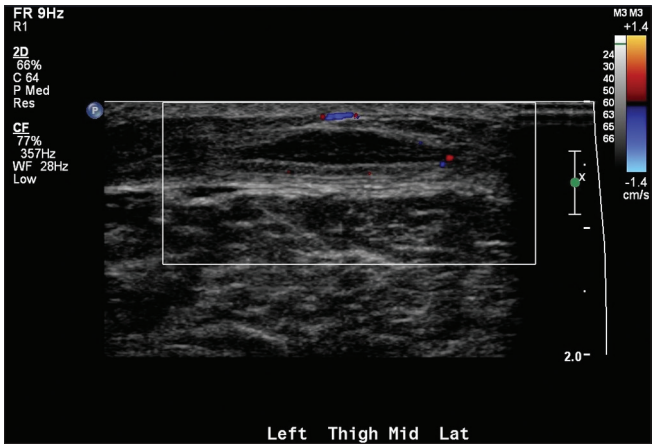

Figure 1: Transverse ultrasound images of a well-defined ovoid and hypoechoic abnormality in the subcutaneous tissues showing a small amount of Doppler flow

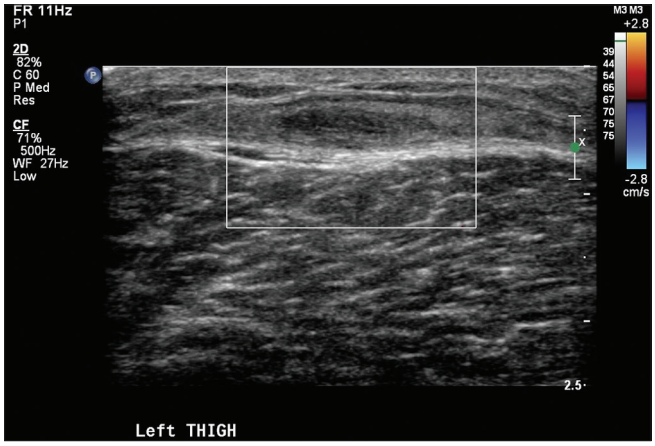

Figure 3: Transverse ultrasound images 6 weeks after the initial ultrasound scan showing no interim changes

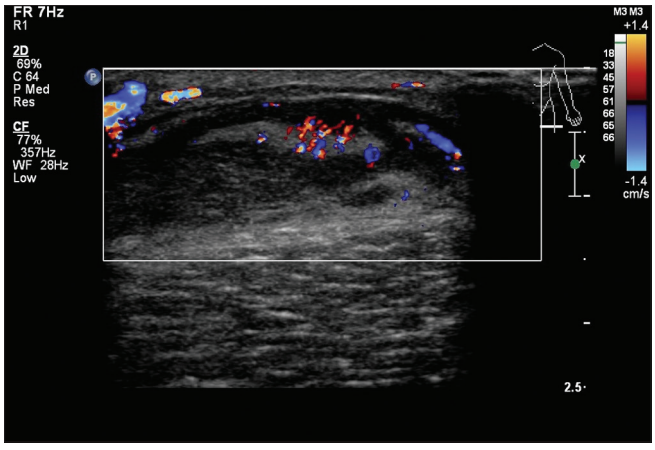

Figure 5: Transverse ultrasound images 8 months after the last ultrasound scan demonstrating an irregular hypoechoic soft-tissue mass with internal Doppler flow suspicious for malignancy

A staging computed tomography scan demonstrated no metastatic disease, and the patient subsequently had a wide excision biopsy.

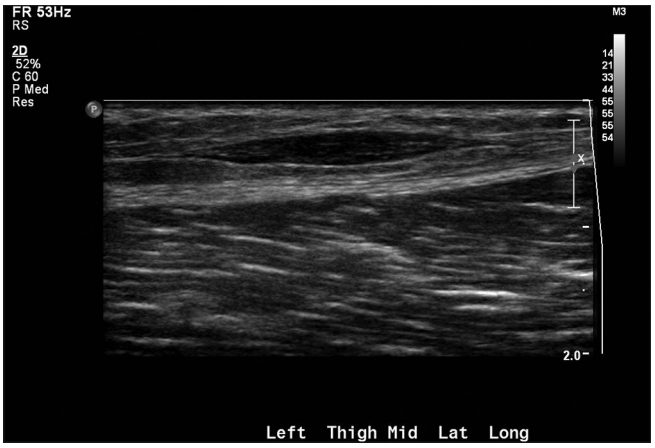

Figure 2: Longitudinal ultrasound images of a well-defined ovoid and hypoechoic abnormality in the subcutaneous tissues

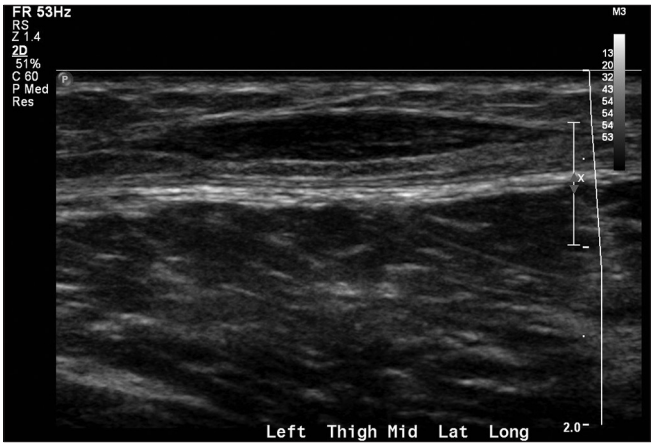

Figure 4: Longitudinal ultrasound images 6 weeks after the initial ultrasound scan showing no interim changes

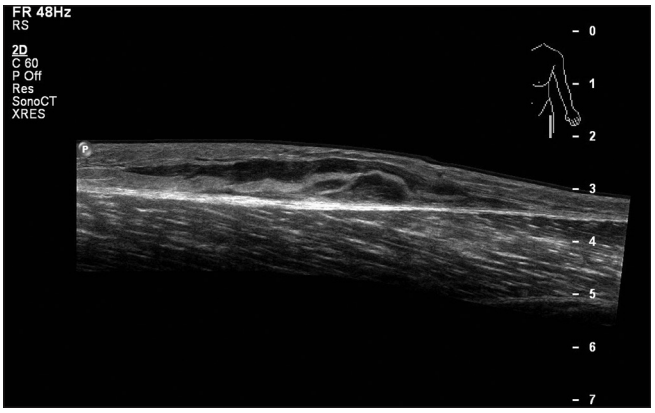

Figure 6: Longitudinal ultrasound images 8 months after the last ultrasound scan demonstrating an irregular hypoechoic soft-tissue mass infiltrating along the subcutaneous tissues

Discussion

Clinical presentation of a soft-tissue sarcoma is highly variable, with the majority of patients presenting with a painless mass that is increasing in size. Myxofibrosarcomas present as a painless mass slowly increasing in size, typically in the thigh

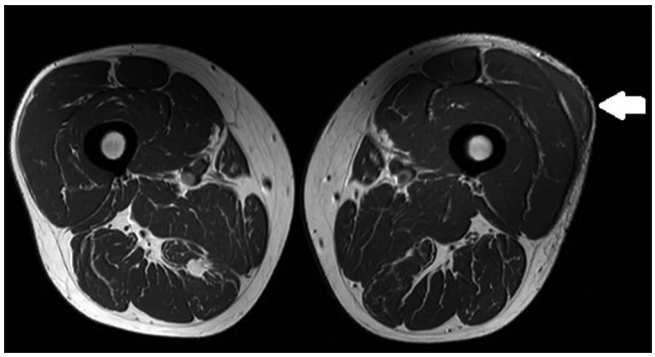

Figure 7: Axial T1 magnetic resonance imaging image showing a soft-tissue mass in the subcutaneous tissues

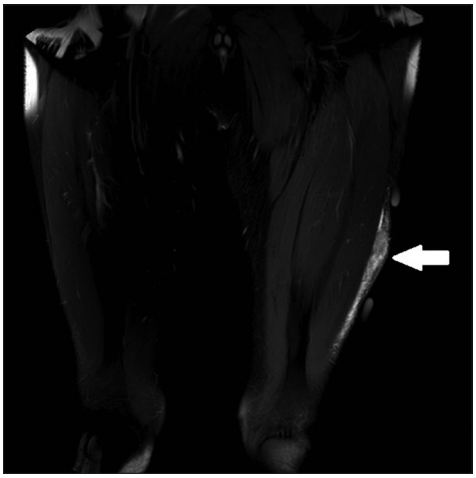

Figure 8: Sagittal T2 magnetic resonance imaging fat saturation image showing a soft-tissue mass in peritumoral edema suspicious for malignancy

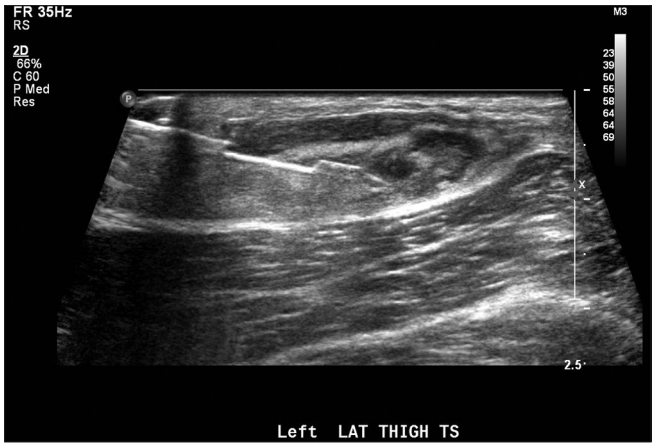

Figure 9: Transverse ultrasound image of an ultrasound-guided biopsy

with the incidence increasing with age.[4,5] Myxofibrosarcomas are classified as superficial or deep, with superficial lesions more infiltrative and are more common.[6] Typically, myxofibrosarcomas have a better prognosis compared with other sarcomas with a lower risk of metastases, although the risk of local recurrence is higher.[4]

The imaging and clinical pitfalls of differentiating between a haematoma and soft-tissue tumor have been documented in the literature. One paper reported seven benign ultrasound cases that were malignant including four sarcomas originally reported as haematomas.[7] Another study reported 15 patients with an initial clinical or imaging diagnosis of a haematoma or haematoma versus hemorrhagic sarcoma.[5] In this paper, 13 sarcomas were in the thigh with 10 patients solely referred for a muscle strain/haematoma and another patient for a suspected haematoma versus abscess. The imaging used in this study was MRI and one patient was incorrectly reported as an intramuscular haematoma, which was proved as a malignant fibrous histiocytoma on histology.

A history of trauma can be reported by patients with a sarcoma, and a spontaneous haematoma could also reveal a sarcoma.[8,9] In addition, in some instances, haematomas can slowly increase in size, making differentiation between a sarcoma and haematoma very difficult.[10] However, in the absence of bleeding diathesis or if the patient is on anticoagulation, haematomas should only occur following major trauma. Given the history of trauma in this case, the suspected haematoma was rescanned after 6 weeks. In retrospect, the patient had an unknown soft-tissue tumour and incidentally had trauma to this region resulting in bruising. There were no interim changes after 6 weeks to change the original ultrasound diagnosis. In retrospect, 6 weeks is not a sufficient timescale to assess for interim changes, especially given that myxofibromas are a slow-growing tumor. There is paucity of evidence in the literature regarding the follow-up of soft-tissue abnormalities. One study suggested that when an ultrasound diagnosis is uncertain, a short-term follow-up scan could be performed, although no details are given regarding the time frame.[11] Another paper reported that posttraumatic haematomas or muscle tears should be followed up between 3 and 6 weeks.[12] However, this case has demonstrated that this is not a sufficient time period to assess for interim changes. The paucity of evidence regarding the follow-up of suspected benign abnormalities demonstrates more research is required so that robust guidelines can be produced to guide practitioners on how long suspected benign abnormalities should be followed-up.

Conclusion

Despite the ultrasound findings correlating with the clinical details, this case demonstrates that the diagnosis of a haematoma can be difficult and other differential diagnoses such as soft-tissue sarcomas should also be considered. There is also paucity of evidence regarding the time frame for the follow-up of haematomas, and this case has shown that 6 weeks is insufficient to follow-up soft-tissue abnormalities.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other

clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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