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Post-traumatic haematoma: a red herring to something more sinister

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This case study describes the initial reporting of a post-traumatic swelling as a haematoma following a relatively minor trauma, which upon further investigation, was proven to be a high-grade liposarcoma.

Post-traumatic haematomas occur commonly but the limits to which another diagnosis should be sought needs to be clarified. . We present our case study followed by a discussion on post-traumatic haematoma emphasising its natural history as well as a brief account on soft tissue sarcomas and their management.

Case report

A 48-year-old left-handed well-built information technology consultant sustained a right arm bruise when he accidentally slipped onto the edge of a workbench. This posterior mid-arm injury caused immediate pain and a bruise. Two days later, he noticed a soft painless lump which continued to increase in size. Two months later, his general practitioner referred him to the surgical department due to a slow growing non-tender lump measuring 10×10.5 cm. His only significant past medical history was of well-controlled hypertension and nasal polyps.

Initial examination suggested a haematoma but it was thought important to rule out a false aneurysm. Duplex ultrasound scan suggested a possible haematoma. MRI was the next investigation of choice but due to a delay of 5 months a CT scan was requested. No muscle defect, calcification, or intramuscular haematoma were detected on the CT scan.

Nine months after the initial injury, the patient began to experience severe pain forcing him to seek urgent help. He presented to the Accident and Emergency department complaining of a 1-month history of worsening pain and paraesthesia of the right forearm and hand. Pain was now increasing when he moved his elbow and wrist, which impeding him in his occupation; he had been on sick leave for the last 3 weeks.

Examination revealed a 12×12×10 cm stony hard circular lesion which was tender and immobile. There was decreased movement of joints due to pain and right hand grip was recorded as 4/5. A subsequent emergency MRI scan reported features which excluded the possibility of a lipoma, with areas that could represent a haematoma with no evidence of malignancy.

Exploration of the lesion revealed a 12×12×10 cm smooth-surfaced, well-circumscribed, poorly encapsulated, multi-lobulated intramuscular (triceps) mass weighing 515 grams. Histology revealed an incompletely excised high-grade liposarcoma for which he was urgently referred to a tertiary cancer specialist Unit. Plans were then being made for another operation for a wide tumour clearance. This

operation was performed the next week followed by a course of radiotherapy and the patient is now recovering well.

Discussion

Post-traumatic haematomas are commonly encountered in the lower limbs following athletic injuries. Their clinical presentation is variable but complete resolution usually occurs within 6 weeks of the injury.

In rare cases, the lump might persist for longer than expected becoming hard and more circumscribed and leading to diagnostic confusion with soft tissue sarcomas. There are reports in the literature of ancient haematomas (up to 20 years old) clinically and radiologically mimicking soft tissue sarcomas[1] but there is no documented evidence to suggest that long-standing haematomas have a potential to become malignant.

The occurrence of a soft tissue sarcoma developing on an extremity following trauma in our case is probably a coincidence; usually a minor accident or trauma draws attention to a pre-existing tumour. In these cases, the diagnosis of a muscle haematoma should be considered if the swelling fails to regress in size or continues to enlarge after a period of conservative treatment; or if the history of trauma is vague and the size of the resultant swelling does not correspond to the severity of the insult. In these cases other sinister causes must be considered and excluded before assuming that the swelling is due to trauma.

Soft tissue sarcomas are uncommon tumours comprising about 1% of all malignancies[2] with liposarcomas constituting about 25–30% of all sarcomas.[3] They may present with diverse clinical and radiological manifestations. The prognosis of soft tissue sarcomas is generally poor with those affecting the extremities and trunk having a better prognosis than visceral and retroperitoneal sarcomas.[4,5] Early diagnosis is crucial if the tumour is to be completely resected and total cure is to be achieved.

Although ultrasound and CT scans can be used as initial radiological investigations in suspected cases of muscle haematoma, MRI is the investigation of choice, especially if contrast is used. The diagnostic yield from contrast MRI is high in cases of soft tissue sarcomas of the limbs as well as in cases of post-traumatic muscle haematoma. This investigation is very useful in the follow-up of patients with muscle injuries.[6]

The diagnosis of soft tissue sarcomas is usually established by doing a core biopsy, although Singh et al showed that fine needle aspiration biopsy (FNAB) can give results which are comparable to core biopsy, especially when trying to differentiate between benign and malignant soft tissue tumours. The yield from FNAB can be improved by combining it with other investigations such as immunohistochemistry and electron microscopy.[7]

Sarcomas are ideally treated in specialised tertiary referral centres by multidisciplinary teams. Treatment consists of surgical excision (in the form of compartmental resection in case of extremity sarcomas), combined with adjuvant radiotherapy and/or chemotherapy. The main aim of treatment is to prevent recurrence. The expertise of plastic surgeons is needed in cases involving the extremities to close the defect resulting after surgical excision of the tumour.

Conclusion

Soft tissue sarcomas are rare malignant tumours. Their diagnosis is often missed due to confusion with other benign swellings. The surgeon needs to keep an open mind in cases of limb swellings following trauma. Moreover, all cases should be investigated thoroughly until a diagnosis of either a benign or malignant lesion is reached.

Malignant lesions must be referred urgently to specialist centres for further management as the consequences of delayed management are usually serious with increased mortality and morbidity to patients.

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References:

1. Mentzel T, Goodlad JR,Smith MA, Fletcher CD. Ancient haematoma: a unifying concept for a post-traumatic lesion mimicking an aggressive soft tissue neoplasm. Mod Pathol. 1997;10:334–40.
2. Lewis JJ, Bernnan MF. Soft tissue sarcomas. Curr Probl Surg. 1996;33:817–72.
3. Miettinen M (ed). Liposarcoma. In: Diagnosis of Soft Tissue Pathology. New York: Churchill Livingstone; 2003, p227–39.
4. Linehan DC, Lewis JJ, Leung D, Bernnan MF. Influence of biologic factors and anatomic site in completely resected liposarcoma. J Clin Oncol. 2000;18:1637–43.
5. Henrick WH, Chu YC, Goldblum JR, Weis SW. Differentiated liposarcoma: A clinicopathological analysis of 155 cases with a proposal for an expanded definition of differentiation. Am J Surg Pathol. 1997;21:271–81.
6. Mellerowicz H, Lubasch A, Dulce MC, et al. Diagnosis and follow-up of muscle injuries by means of plain and contrast-enhanced MRT: experimental and clinical studies. Rofo. 1997;166:437–45 [in German].
7. Singh HK, Kilpatrick SE, Silverman JF. Fine needle aspiration biopsy of soft tissue sarcomas: utility and diagnostic challenges. Adv Ant Pathol.2004;11:24-37.