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***Case Report***

# UNUSUAL RECURRENT INTRAMUSCULAR HEMATOMA TURNING TO BE A SOFT TISSUE SARCOMA

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## ABSTRACT
Soft-tissue sarcomas are a heterogeneous group of tumors that arise from tissue of mesenchymal origin and are characterized by infiltrative local growth. They usually present as an asymptomatic mass originating in an extremity but can occur anywhere in the body, particularly the trunk, retroperitoneum, or the head and neck. We are reporting a case of 23 year old female who presented with recurrent swelling over left groin region, twice in six months. Patient was initially suspected to have intramuscular hematoma and on subsequent radiological and pathological investigations patient was diagnosed to have soft tissue sarcoma.

***Keywords:*** *Soft Tissue Sarcoma, Intramuscular Hematoma*

## INTRODUCTION
Sarcomas are a heterogeneous group of rare tumors that arise predominantly from the embryonic mesoderm.
Soft tissue sarcomas most commonly present as an asymptomatic mass. The various types' of sarcomas include bone sarcomas like (osteosarcomas and chondrosarcomas), Ewing's sarcomas, peripheral primitive neuroectodermal tumors, and soft tissue sarcomas. Soft tissue sarcomas can occur anywhere in the body, but most common originate in an extremity (59%), the trunk (19%), the retroperitoneum (15%), or the head and neck (9%).
More than 50 histological types of soft tissue sarcoma have been identified, but the most common are malignant fibrous histiocytoma (28%), leiomyosarcoma (12%), liposarcoma (15%), synovial sarcoma (10%), and malignant peripheral nerve sheath tumors (6%). Rhabdomyosarcoma is the most common soft tissue sarcoma of childhood (Coindre *et al.*, 2001; Cormier and Pollock, 2003).

## CASES
A 23 year old female came with complaints of swelling in the left groin region with dull aching pain since 4 months, swelling preceded the pain.
On examination patients vitals were stable and CVS, RS, CNS was normal and on physical examination a mass which measures approximately 15 x 10 cm noted which was firm, immobile,tender, andhaving smooth surface was noted in the left groin.
Patients' blood routine and urine routine were within normal limits. No history of trauma or bleeding disorders.
Patient was then referred for USG and was found to have a well defined hypo-echoic lesion with cystic changes, the lesion arising from the left inguinal region and extending into the pelvis with size measuring approximately 16 x 11 x 11.6 cm.
No increased vascularity noted within the lesion. There was a mass effect of the lesion on the pelvic organs in the form of displacement of bladder towards right side.
USG features were suggesting intramuscular hematoma in the left inguinal region with intrapelvic extension. As USG was suggesting a large intramuscular hematoma patient was further investigated with CT and MRI.
Both the lower poles of kidney were seen fused anterior to the aorta and diagnosed as horse shoe kidneys. Rest of the abdominal organs were normal.

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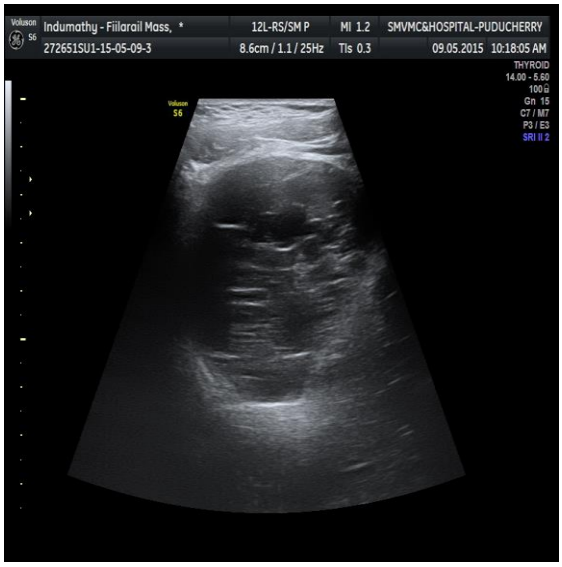


**Figure 1**

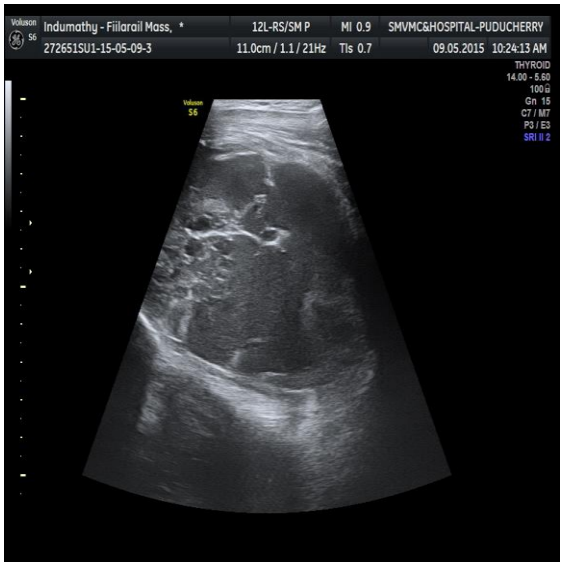


**Figure 2**

**Figure 1 and 2: USG of the left inguinal region shows well defined heterogeneously hypo-echoic lesion with multiple internal septations and fine mobile internal echoes**

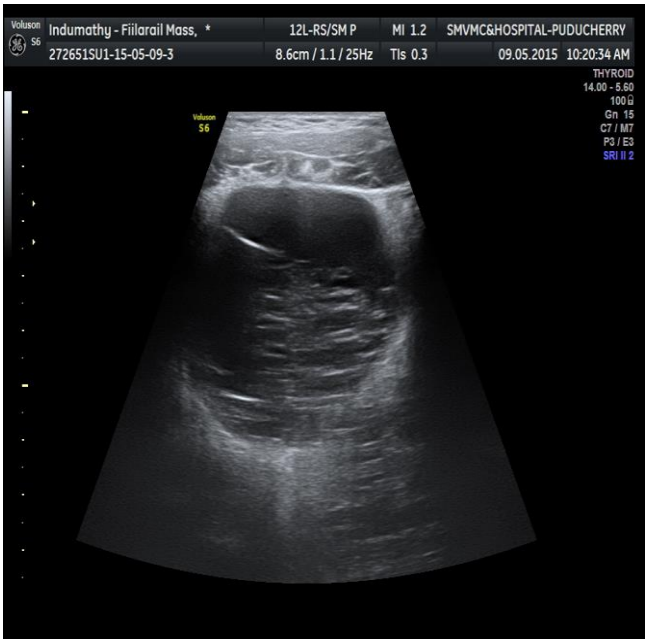


**Figure 3: USG of the pelvis shows well defined heterogeneously hypo-echoic lesion intrapelvically with fine internal echoes**

***CT Findings***

Well defined mildly and peripherally enhancing hypo-dense cystic lesion noted in the anteromedial aspect of the adductor magnus in the intra muscular plane of size approximately 8.9 x 8.1 x 8.3 cm which is seen communicating through obturator foramen with another two well defined lobulated hypo-dense cystic lesions, one in region of obturatorinternus of size measuring 6 x 4.5 x 7.4 cm and another lesion just superior to it of size 5.1 x 6 x 6.2 cm in the left hemi pelvis causing mass effect in the form of displacement of vagina, bladder, rectum towards right s/o Large intramuscular hematoma with intrapelvic extension and mass effect.

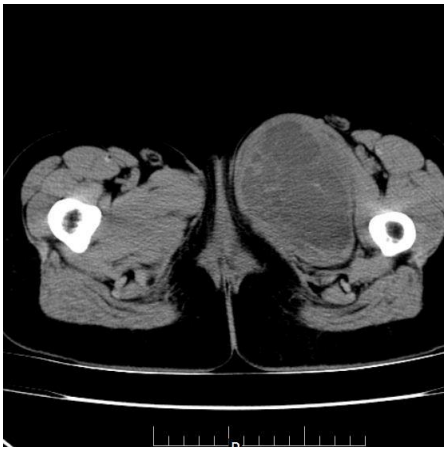

**Figure 4**

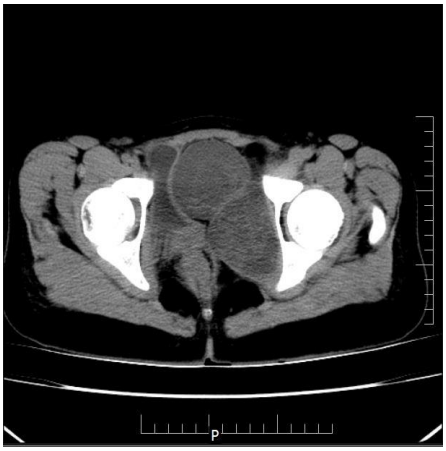

**Figure 5**

**Figure 4 and 5: shows CT plain axial section shows a well defined large lobulated hypo-dense mass lesion in intramuscular plane of adductor group muscles with few thin internal septations within in intra pelvic and extra pelvic components**

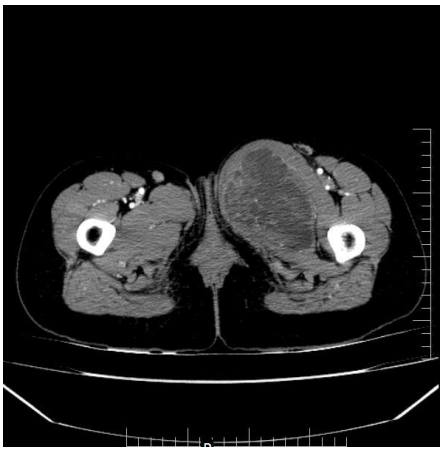

**Figure 6: CT arterial phase shows few heterogeneousseptal enhancement of lesion both in intra pelvic and extra pelvic components**

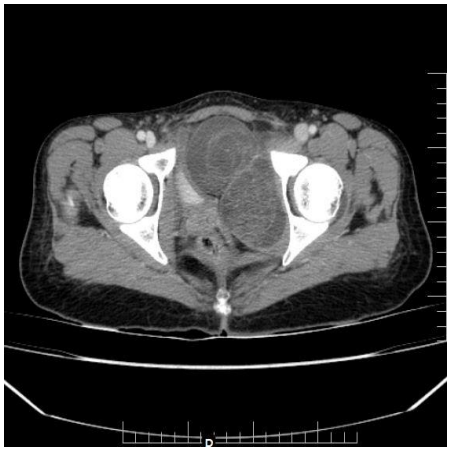

**Figure 7**

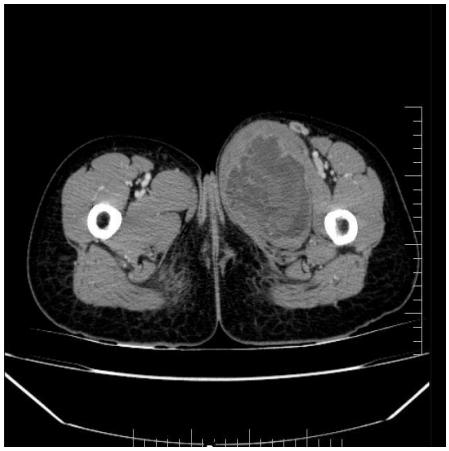

**Figure 8**

**Figure 7 and 8: CT venous phase shows more homogenous enhancement of septum and subtle filling of contrast within the intramuscular cystic component of the lesion**

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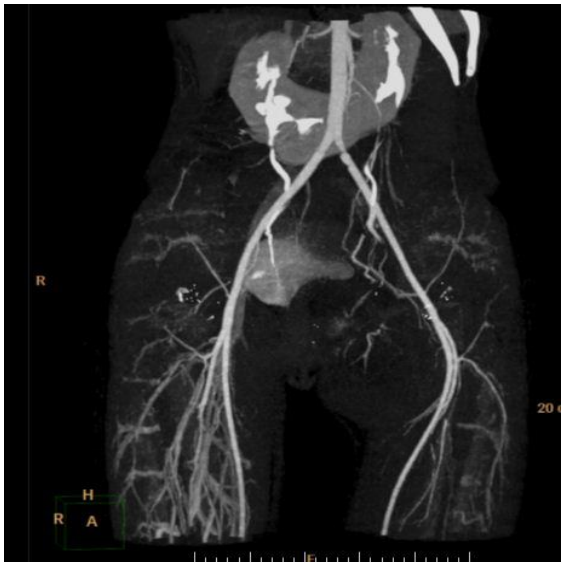

**Figure 9: CT angiography shows no significant arterial feeder from external iliac and common femoral laterally, mass effect noted in the form of displacement of external iliac and common femoral artery**

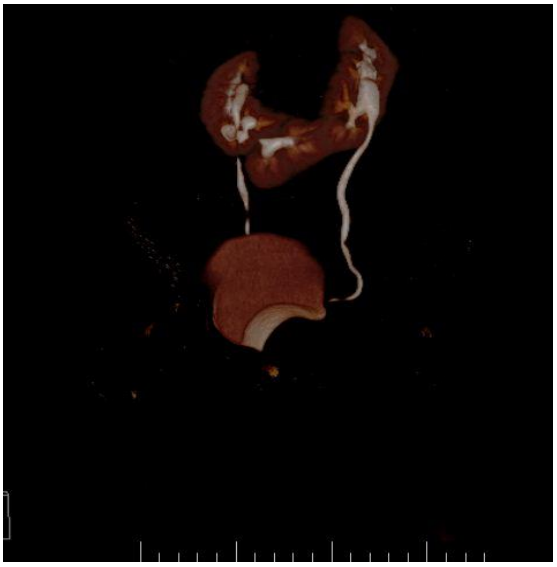

**Figure 10: CT urography confirms horse shoe kidney seen in USG with functioning isthmus connecting both lower poles of kidney**

***MRI Findings***

MRI confirms the extent and cystic nature of lesion which appears T1 heterogeneous, iso to hyper intense, T2 and STIR hyper-intense lesion with multiple internal septations and areas of blooming on FFE images most likely s/o intramuscular hematoma

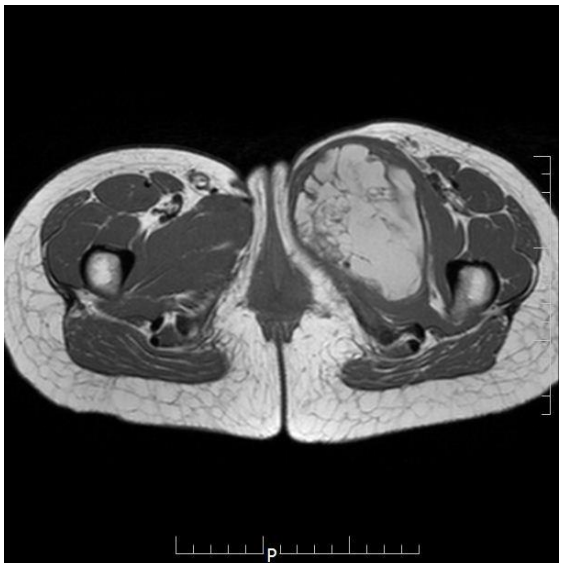

**Figure 11**

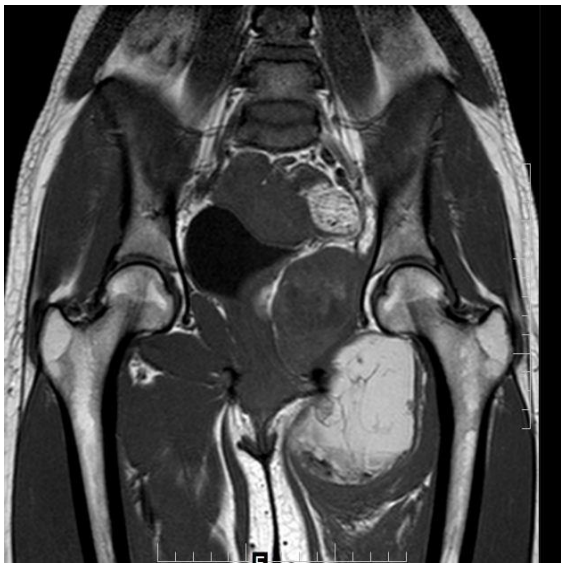

**Figure 12**

**Figure 11 and 12: T1 axial and coronal image shows well defined large heterogeneous intramuscular lesion which shows predominantly hyper-intense signal in extra pelvic component with heterogeneous hypo to iso-echoic signal in the intra pelvic component of the lesion, Lesion seen extending through obturator foramen into the pelvis**

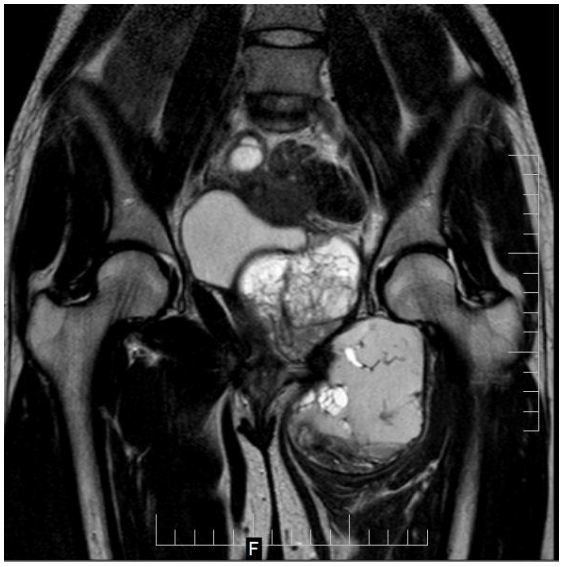

**Figure 13: T2 coronal shows predominantly T2 hyper-intense lesion with multiple thin T2 hypo-intense internal septations with blood fluid level in the dependant part of the lesion**

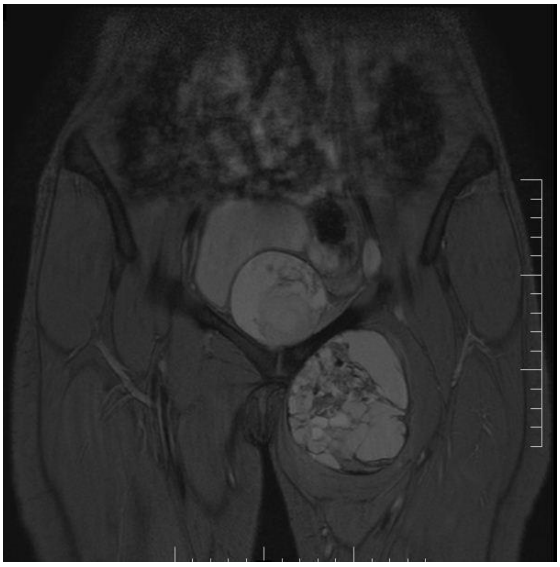

**Figure 14: Shows a thin layering of blood in the dependant portion of the lesion with some areas blooming in between the septations**

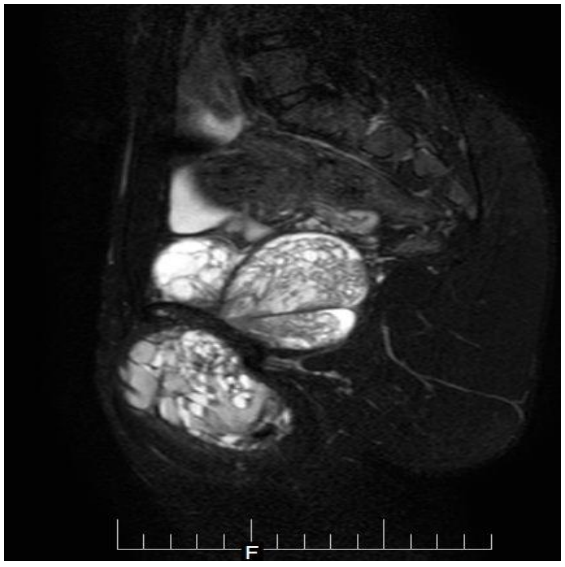

**Figure 15**

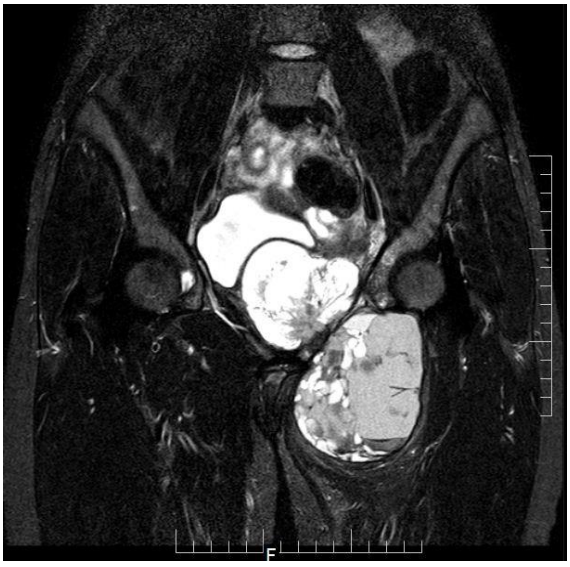

**Figure 16**

**Figure 15 and 16: Shows SPAIRhyper-intense lesion with multiple hypo-intense internal septations and multiloculated varying signal intensity within the lesion extending into the pelvis through obturator foramen causing mass effect in form of displacement of the bladder**

Aspiration of the hematoma and drainage of cyst contents was done. Post operatively patient was symptomatically better and stable hence discharged.

Patient came back after 6 months with similar complaints of recurrence of mass since 1 month. On examination patients vitals were stable and CVS, RS, CNS was normal and on physical examination a mass which measures approximately 14 x 6 cm noted which was firm, immobile, tender, and having smooth surface was noted in the left groin. Patients' blood routine and urine routine were within normal limits.

*Follow Up CT Images*

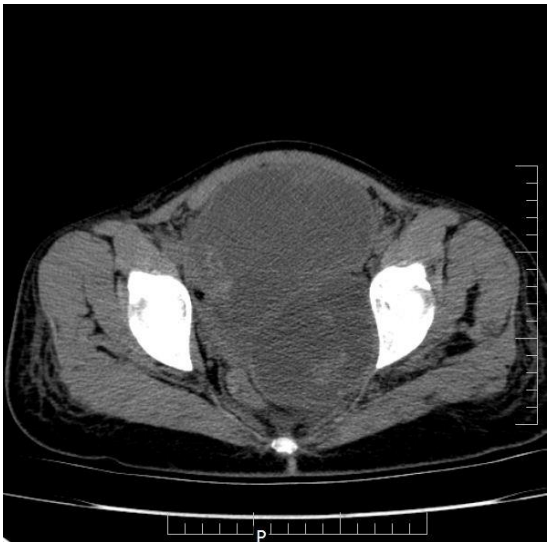

**Figure 18**

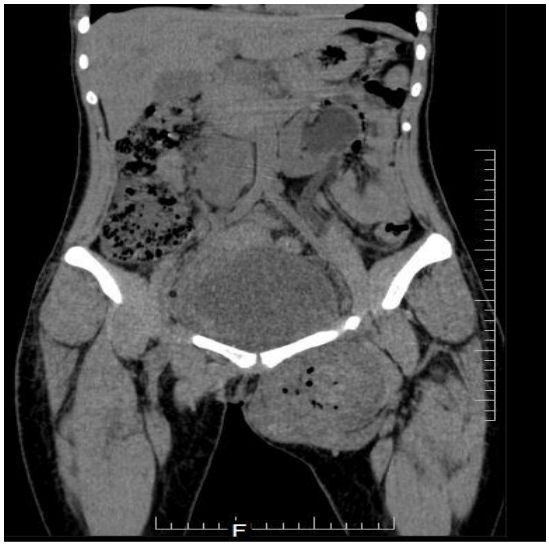

**Figure 19**

**Figure 18 and 19: Plain CT shows intrapelvic component of lesion dramatically increased in size compared to previous study with areas of fresh hemorrhage within (hyper-dense areas), Extra pelvic component shows post operative changes in form of multiple air pockets and skin defects**

Patient underwent multiple incision biopsies from the wall of the cyst and cyst contents were evacuated. The specimen was sent for pathological analysis and demonstrated small round blue cells containing scanty cytoplasm and hyper-chromatic nuclei, moderate mitotic activity seen, intervening areas of necrosis and nuclear debris noted, adjacent foci showed large areas of hemorrhage and extensive infarcts. Features suggestive of soft tissue sarcoma.

## DISCUSSION

Soft-tissue sarcomas can occur at any site throughout the body (Eilber *et al.*, 2003). Almost 45 percent of all soft tissue sarcomas are found in the extremities, especially in the lower limb (Weitz *et al.*, 2003). The metastatic spread of sarcomas is mainly hematogenous to the lungs, although lymphatic spread may occur. Soft-tissue sarcomas can occur at any site throughout the body (Eilber *et al.*, 2003).

Presentation of soft tissue sarcomas is usually as a asymptomatic mass.Tumor size at the time of presentation depends on the location of mass. Tumors in the proximal extremities and retroperitoneum canbecome large before found; tumors in distal extremities are usually small when found. Soft tissue sarcomas grow centrifugallyandcan compress surrounding structures; rarely can itcompress bone or neurovascular structures producing pain, edema, and swelling. Sometimes, patients may present with GI obstruction symptoms, due to compression of lumbar or pelvic nerves (Cormier and Pollock, 2004). Sarcomas comprise approximately one percent of malignant tumors and represent a significant diagnostic and therapeutic challenge (Rougraff, 1999).

The differential diagnosis for a soft tissue mass includes benign lesions, likelipomas, lymphangiomas, leiomyomas, and neuromas. Besides sarcomas, other malignant lesions, such as primary or metastatic carcinoma, melanoma, or lymphoma, should be considered. Small lesions that have not changed for several years may just be closely observed. However, biopsy should be considered in patients with all other types of tumors to establish a definitive diagnosis. Majority of soft tissue tumors are benign with good prognosis after surgical excision. Malignant mesenchymalneoplasm's amount to less than 1% of all the malignant tumors, but they are life threatening and also difficult to diagnose as there are more than 50 histological subtypes of soft tissue sarcomas.

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Soft tissue sarcomas may occur anywhere but three fourths occur in the extremities, 10 percent each in the trunk wall and retroperitoneum. Soft tissue sarcomas become more common with increasing age; the median age is 65 years. One tenth of the patients have detectable metastases (most common in the lungs) at diagnosis of the primary tumor. Overall, at least one-third of the patients with soft tissue sarcoma die, mostly due to lung metastases.

The management of large hematomas in the extremities is difficult when the etiology is not clear. Hematoma can result from trauma, surgery, or a bleeding disorder, its misdiagnosis can lead to disastrous results, especially in the presence of malignancy (Krebs *et al.,* 2002; Stafford *et al.,* 2003).

When a patient presents with an expanding, non- traumatic mass mimicking a hematoma, several differential diagnoses should be considered including aneurysm, any bleeding disorders, chronicenlarginghematoma and soft tissue sarcoma. An aneurysm can sometimes form an intra or inter muscular mass with hematoma.

Hematomas can be found in patients with bleeding disorders or deranged coagulation factors. Soft tissue sarcoma should always be considered in this scenario and patient should be investigated with appropriate history of trauma, clinical course, and MRI findings (Boyer *et al.,* 1995; Okada *et al.,* 2001; Naito *et al.,* 2000; Niimi *et al.,* 2006; Gomez and Morcuende, 2004).

***Conclusion***

When a patient presents with a nonspecific and unusual history of hematoma in the extremities, it is necessary to consider the possibility of a malignant tumor and investigate the patient's history of trauma, clinical course, and MRI. Moreover, prompt biopsies are recommended to facilitate correct diagnosis and early management.

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