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A Clinico-Pathological Study of Soft Tissue Sarcomas

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Introduction

- **Soft Tissue Sarcomas**
- They constitute 1% of adult malignancies.
- They are common in middle age and males.
- Common sites of occurrence are in the lower limb, upperlimb, retroperitoneum, viscera, and trunk.
- They have rapid growth and early blood spread.
- They are relatively more aggressive compared to carcinomas.
- Treatment is surgery followed by adjuvant radiotherapy and chemotherapy.

Aims and Objectives

To study

- The age of incidence
- Sex preponderance
- Clinical presentation regarding the anatomical site of occurrence
- Various histo-pathological varieties of sarcomas
- Recurrence after treatment with wide local excision and adjuvant radiotherapy.

Materials and Methods

- A prospective study was made from June 2017 to June 2019 on 20 patients who presented to the Department of General Surgery, Andhra medical college/ King George hospital, Visakhapatnam with signs and symptoms of soft tissue sarcoma.
- The Study is based on clinical examination, radiological findings and histopathological examination and wide local excision, adjuvant radiotherapy, and follow up.

Inclusion Criteria

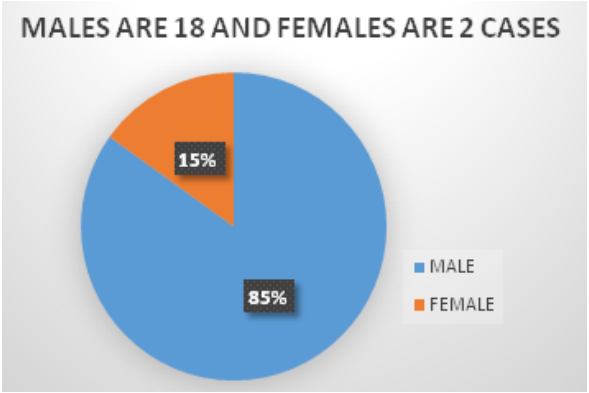
- 20 cases operated are included
- Cases not having metastasis.
- Cases which are in stage 1,2,3
- All cases are operated with wide excision and later adjuvant radiotherapy given based on the grade of the tumor.
- Resectable tumors.
- Cases with a minimum follow up of 6 months.

Exclusion Criteria

- Cases with stage4 disease and distant metastasis.
- Cases not in follow up or lost follow up in between.

Results

- Twenty cases of soft tissue sarcomas included in the study.
- All cases are middle-aged (25-50 years).
- There is no metastasis in any case.
- Wide local excision is done for all cases followed by adjuvant radiotherapy and followed up for six months during the study.
- Two subjects are observed to have Recurrence in Follow up.



Patient Data

CHARACTERISTICS	NUMBER
TOTAL PATIENTS(M,F)	20(18,2)
AGE(30-50YEARS)	20
ANATOMICAL SITE: LOWER LIMBS UPPERLIMBS TRUNK HEAD AND NECK	 10 4 4 2
PAST HISTORY OF SIMILAR SWELLING	0
HISTOPATHOLOGY VARIETY: MALIGNANT FIBROUS HISTIOCYTOMAS LIPOSARCOMA PERIPHERAL NERVE SHEATH TUMOUR SYNOVIAL CELL CARCINOMA RHABDOMYOSARCOMA	8 6 3 2 1
RECURRENCE	2(both are males)

- **Sex Distribution**
  Out of 20 Cases, All Are Middle-Aged

Incidence based on anatomical site

HISTO-PATHOLOGICAL VARIETY	NUMBER OF CASES(%)
MALIGNANT FIBROUS HISTIOCYTOMA	8 CASES(40%)
LIPOSARCOMA	6 CASES(30%)
PERIPHERAL NERVE SHEATH TUMOUR	3 CASES(15%)
SYNOVIAL CELL SARCOMA	2 CASES(10%)
DERMATOFIBROSARCOMA	1 CASE(5%)

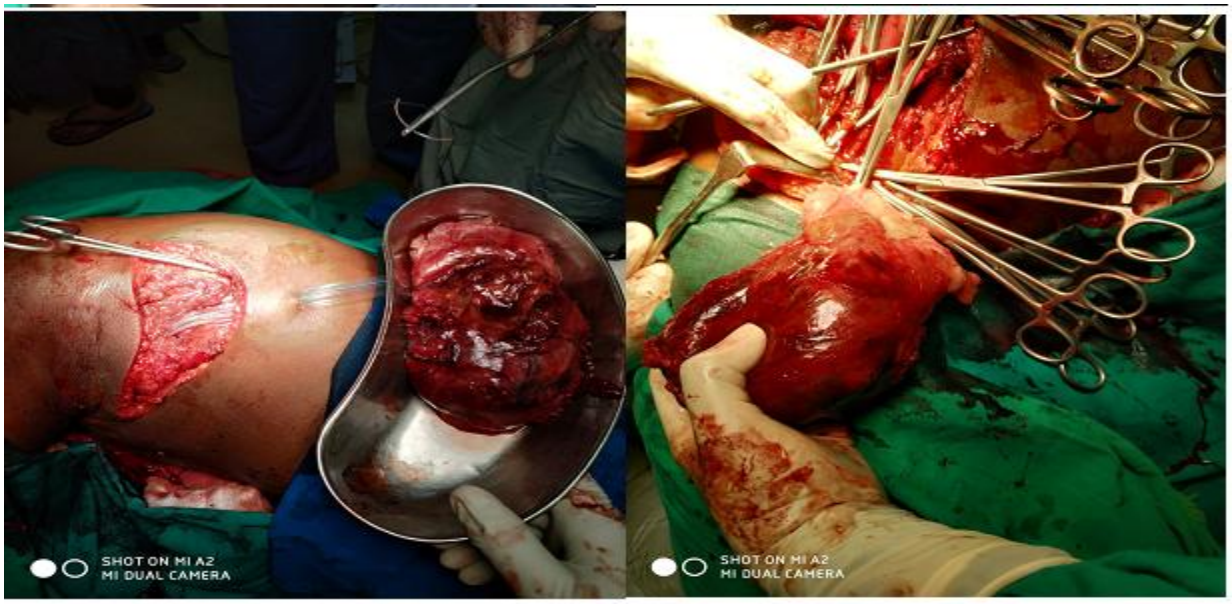
Incidence of various histopathological types

HISTO-PATHOLOGICAL VARIETY	NUMBER OF CASES(%)
MALIGNANT FIBROUS HISTIOCYTOMA	8 CASES(40%)
LIPOSARCOMA	6 CASES(30%)
PERIPHERAL NERVE SHEATH TUMOUR	3 CASES(15%)
SYNOVIAL CELL SARCOMA	2 CASES(10%)
DERMATOFIBROSARCOMA	1 CASE(5%)

- Cases with past history of similar swelling are zero.
- Cases with recurrence are two in number during the period of study and, both the cases are malignant fibrous histiocytomas.

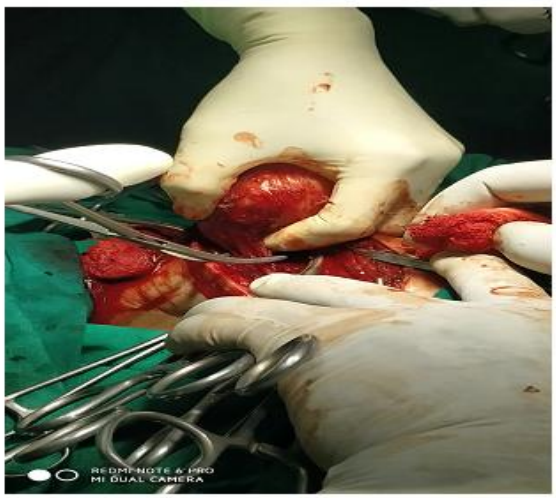
Case 1:

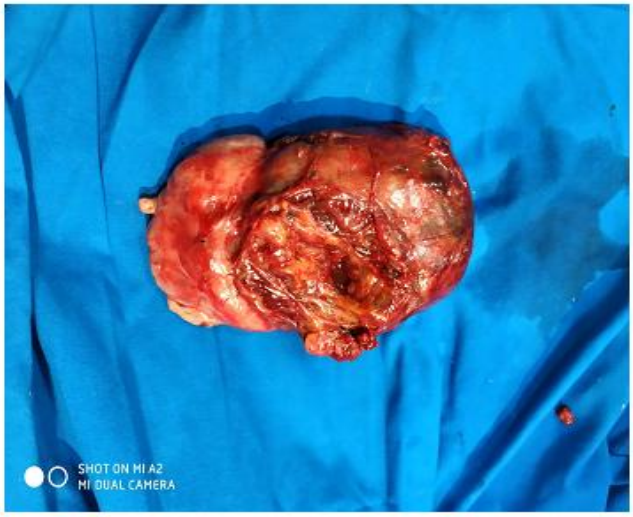
A 46-year-old male with soft tissue tumor over back of chest below axilla-HPE - MALIGNANT FIBROUS HISTIOCYTOMA



Case 2

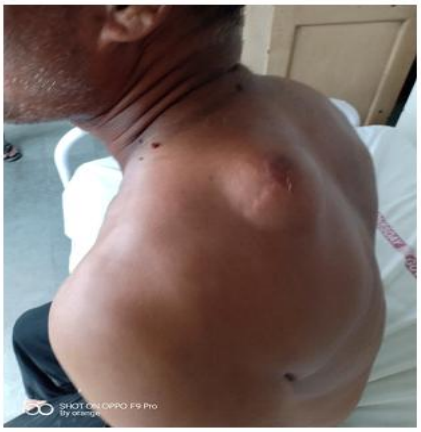
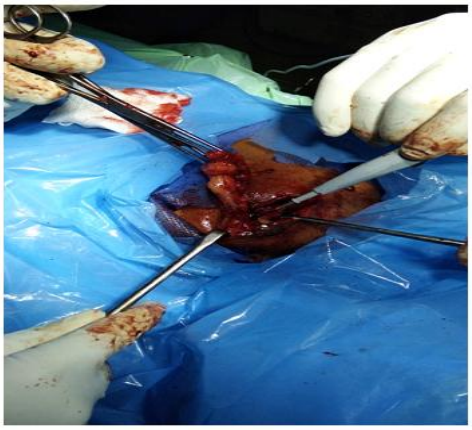
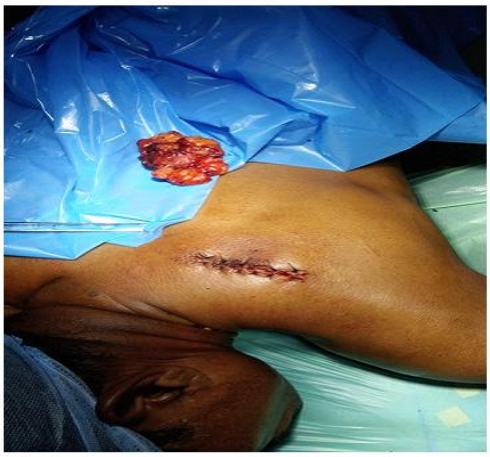
A 42-Year-old male with soft tissue tumor over right loin- HPE – LIPOSARCOMA





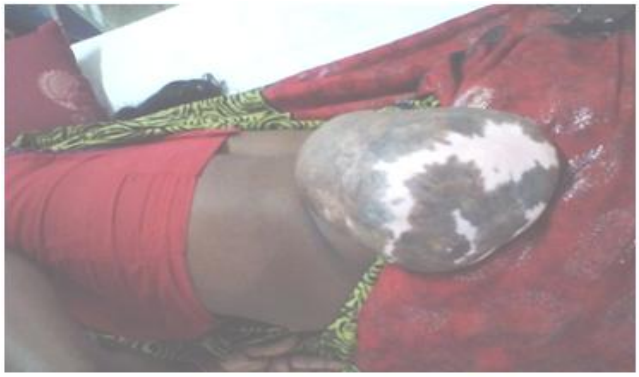
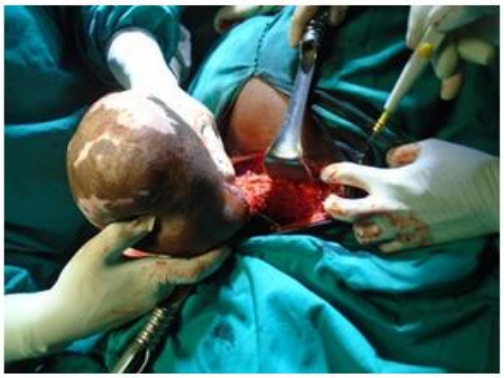
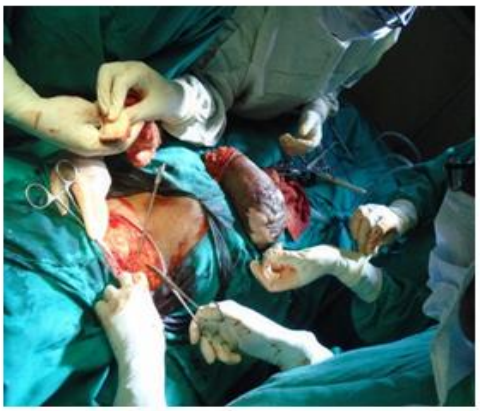
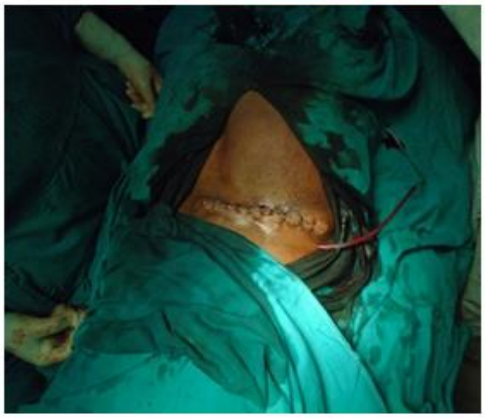
Case 3

A 42 year patient with soft tissue sarcoma over the back- HPE is low grade malignant fibrous histiocytoma

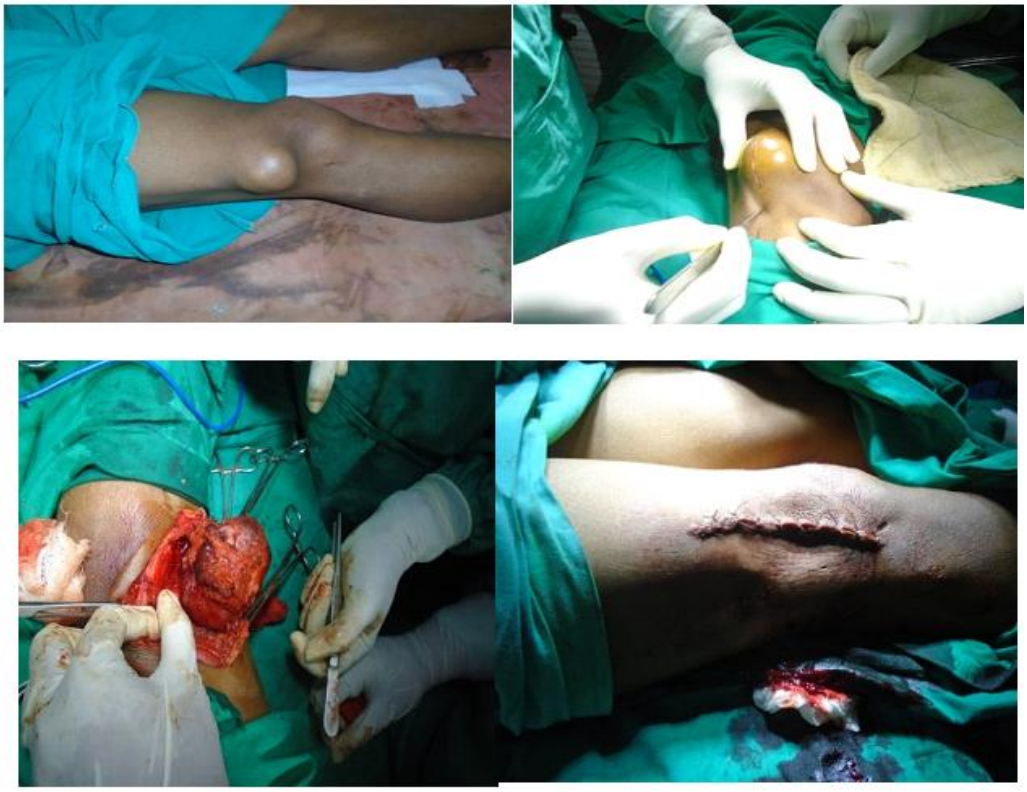
Case 4

A 40-year-old female with soft tissue lesion over the left hip region- HPE given as Liposarcoma

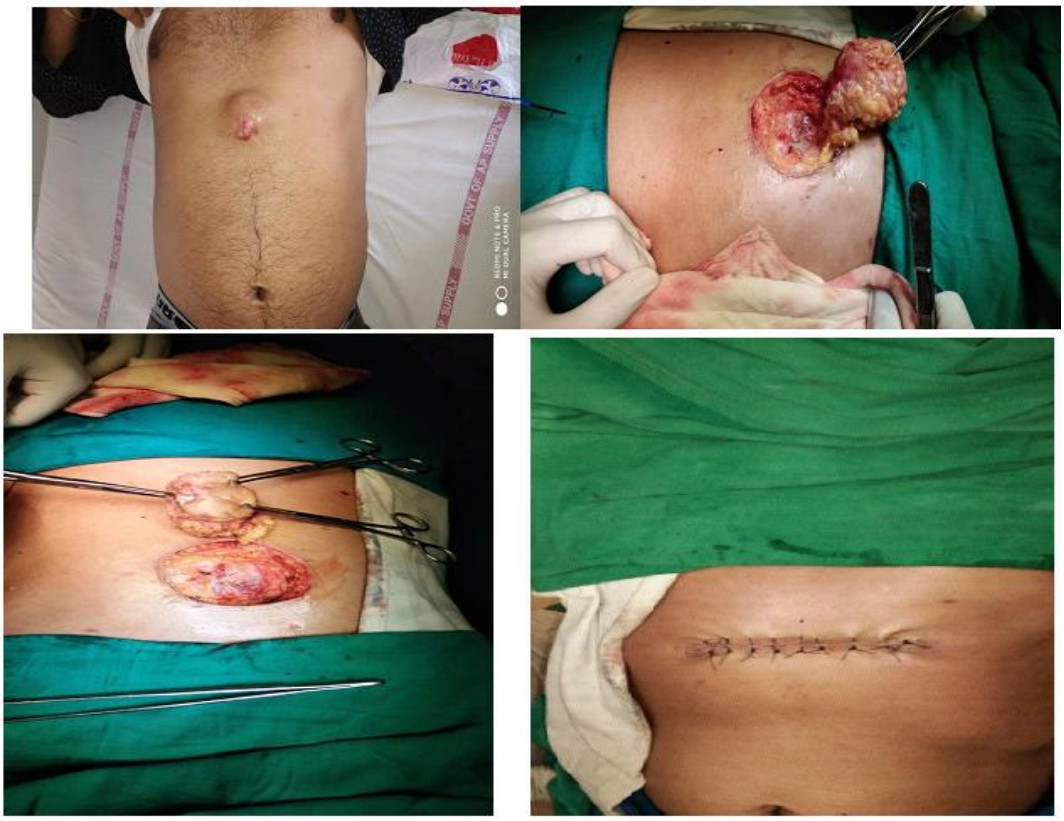
Case 5

38-years male with soft tissue tumor over the lateral aspect of the right knee- HPE report is a malignant peripheral nerve sheath tumor.



Case 6

A 38 year male with swelling over anterior abdominal wall-HPE is Dermatofibrosarcoma.



Discussion

Incidence

In adults, Liposarcoma and Malignant fibrous histiocytoma are common, followed by Rhabdomyosarcoma.

In children, rhabdomyosarcoma is common.

Etiology

1) Genetic: von Recklinghausen disease, Gardners syndrome, tuberous sclerosis, Li-Fraumeni syndrome, Gorlin's syndrome.
2) Chemicals: PVC, Tetrachlorodibenzodioxin, arsenic
3) Viral: HIV, CMV
4) Ionizing radiation
5) Lymphangio-sarcoma in carcinoma breast with postop. Lymphedema
6) Osteogenic sarcoma in Paget's disease of bone and radium exposure

Clinical Features

- ✓ Painless swelling of short duration with a progressive increase in size sometimes with compression of adjacent structures.
- ✓ Smooth, firm/hard, warm, and vascular.
- ✓ No reliable findings to differentiate benign and malignant swellings.
- ✓ So we have a suspicion of malignancy in any soft tissue mass when it is deep to deep fascia, mass >5cm, very fast-growing newly found mass.

Investigations

- ✓ For tissue diagnosis: incisional biopsy, TRUCUT BIOPSY.
- ✓ For the extent of the tumor-MRI, CECT, MRA, USG
- ✓ For metastatic workup-Chest X-ray, CECT chest, abdomen, and pelvis, USG, PET, or INTEGRATED PET.
- ✓ Other investigations-GALLIUM-67 scintigraphy, FDG-PET, FISH, immunohistochemistry, tumor markers.

Staging: based on

- ✓ TNM staging
- ✓ AJCC 2010/UICC staging of soft tissue sarcomas.

Grading

- ✓ The Grade is the single most important factor in staging.

Treatment

- ✓ Surgery: Enneking classification of surgical procedures. Different levels of amputations.
- ✓ Radiotherapy- pre-operative, postoperative, palliative external radiotherapy.
- ✓ Chemotherapy- neoadjuvant chemotherapy and postoperative chemotherapy.

Prognostic Factors in Soft Tissue Sarcomas

- ✓ Size >5cm
- ✓ High grade
- ✓ More than one compartment involved
- ✓ Deep tumors and multicentric
- ✓ Neurovascular invasion
- ✓ Lung secondaries
- ✓ Clearance margin

Conclusion

- In our study, soft tissue sarcomas are more common in middle-aged males. The most common anatomical site is the lower limb.
- In our study, the most common histopathological types are Malignant Fibrous histiocytoma and Liposarcoma.
- Surgery followed by adjuvant radiotherapy is the main modality of treatment as there are only two recurrence cases seen in our six months of follow up.

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