A Clinico-Pathological Study of Soft Tissue Sarcomas

Authors

Dr P. Mythili, MS, Dr Samana Vidya Sagar, Dr S. Karuna Reddy, Dr M. Yesuprasad

1Chief Surgeon, Department of General Surgery, AMC, Vizag
2,3,4Post Graduate, Department of General Surgery, AMC, Vizag

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, upper limb, 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 stage 4 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

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL PATIENTS (M:F)</td>
<td>20(18:2)</td>
</tr>
<tr>
<td>AGE (30-50 YEARS)</td>
<td>20</td>
</tr>
<tr>
<td>ANATOMICAL SITE:</td>
<td></td>
</tr>
<tr>
<td>LOWER LIMBS</td>
<td>10</td>
</tr>
<tr>
<td>UPPER LIMBS</td>
<td>4</td>
</tr>
<tr>
<td>TRUNK</td>
<td>4</td>
</tr>
<tr>
<td>HEAD AND NECK</td>
<td>2</td>
</tr>
<tr>
<td>PAST HISTORY OF SIMILAR SWELLING</td>
<td>0</td>
</tr>
<tr>
<td>HISTOPATHOLOGY VARIETY:</td>
<td></td>
</tr>
<tr>
<td>MALIGNANT FIBROUS HISTIOCYTOMAS</td>
<td>8</td>
</tr>
<tr>
<td>LIPOSARCOMA</td>
<td>6</td>
</tr>
<tr>
<td>PERIPHERAL NERVE SHEATH TUMOUR</td>
<td>3</td>
</tr>
<tr>
<td>SYNOVIAL CELL SARCOMA</td>
<td>2</td>
</tr>
<tr>
<td>RABDOMYOSARCOMA</td>
<td>1</td>
</tr>
<tr>
<td>RECURRENCE</td>
<td>2 (both are males)</td>
</tr>
</tbody>
</table>

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

Case 1:
A 46-year-old male with soft tissue tumor over back of chest below axilla-HPE - MALIGNANT FIBROUS HISTIOCYTOMA

Incidence based on anatomical site

<table>
<thead>
<tr>
<th>HISTOPATHOLOGICAL VARIETY</th>
<th>NUMBER OF CASES(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALIGNANT FIBROUS HISTIOCYTOMA</td>
<td>8 CASES(40%)</td>
</tr>
<tr>
<td>LIPOSARCOMA</td>
<td>6 CASES(30%)</td>
</tr>
<tr>
<td>PERIPHERAL NERVE SHEATH TUMOUR</td>
<td>3 CASES(15%)</td>
</tr>
<tr>
<td>SYNOVIAL CELL SARCOMA</td>
<td>2 CASES(10%)</td>
</tr>
<tr>
<td>DERMATOFIBROSARCOMA</td>
<td>1 CASE(5%)</td>
</tr>
</tbody>
</table>

- 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 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.

References
2. SABISTON textbook of surgery. The biological basis of modern surgical practice, 20TH EDITION, by Elsevier, 2017
3. Fischer’s Mastery of Surgery 7th edition, 2019

