# CLINICAL ANALYSIS AND SURGICAL RESULTS IN SARCOMA

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**ABSTRACT**

**INTRODUCTION**

Sarcomas are quite rare with only 15,000 new cases per year in the United States. Sarcomas therefore represent about one percent of the 1.5 million new cancer diagnoses in that country each year. Sarcoma can be defined as cancer whose cells originate from the cells of mesenchymal origin. The bones, cartilages, muscles are a few examples to be mentioned. This is in contrast to a malignant tumour originating from epithelial cells, which are termed carcinoma.

**AIMS AND OBJECTIVES**

1. To clinically analyze the sarcomas.
2. To analyze the surgical outcome of this disease.

The survival of the patient depends on the extent of metastasis and the primary identification. The study forms a base for further studies. So atleast it could be diagnosed earlier and treated to the full extent.

**KEYWORDS**

Sarcomas, Clinically analyze, Surgical outcome.

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**INTRODUCTION:** Sarcoma can be defined as cancer whose cells originate from the cells of mesenchymal origin. The bones, cartilages, muscles are a few examples to be mentioned. This is in contrast to a malignant tumour originating from epithelial cells, which are termed carcinoma. Human sarcomas are quite rare. Common malignancies, such as breast, colon, and lung cancer, are almost always carcinoma. Sarcomas are given a number of different names based on the type of tissue that they most closely resemble. For example, osteosarcoma resembles bone, chondrosarcoma resembles cartilage, liposarcoma resembles fat, and leiomyosarcoma resembles smooth muscle.

Sarcomas are quite rare with only 15,000 new cases per year in the United States.[1] Sarcomas therefore represent about one percent of the 1.5 million new cancer diagnoses in that country each year.[2]

Gastrointestinal stromal tumour (GIST) is the most common form of sarcoma, with approximately 3,000-3,500 cases per year in the United States.[3]

Sarcomas affect people of all ages.[4] Some sarcomas, such as leiomyosarcoma, chondrosarcoma, and gastro-intestinal stromal tumour (GIST), are more common in adults than in children. Most high-grade bone sarcomas, including Ewing's sarcoma and osteosarcoma, are much more common in children and young adults.

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Ewing Sarcoma is a biologically aggressive, poorly differentiated tumour of bone and soft tissue, and less commonly viscera.[5,6,7]

HHV-8 has been found in all forms of Kaposi's Sarcoma: classical, endemic, and AIDS-associated iatrogenically acquired Kaposi.[8]

It is very difficult to diagnose a sarcoma and so it is to treat. The need of the hour is early diagnosis and so an effort is made in this study to thoroughly understand the clinical analysis and surgical outcome of these patients.

**AIMS AND OBJECTIVES:**

1. To clinically analyze the sarcomas.
2. To analyze the surgical outcome of this disease.

**MATERIALS AND METHODS:** Twenty six patients were identified from different parts of Mangalore who were being treated by different private and Government hospitals and the study was done.

The study was conducted for a period of three years from 2011 to 2014.

**RESULTS:**

| Type | Number |
|---|---|
| Osteosarcoma | 7 |
| Kaposi's sarcoma | 5 |
| Ewing's | 3 |
| Synovial sarcoma | 1 |
| Liposarcoma | 2 |
| Carcinosarcoma | 2 |
| Leiomyosarcoma | 5 |
| Rhabdomyosarcoma | 1 |

***Table 1: The frequency of different forms of sarcoma***

| Type | Mean age of the patient (approx. to near 1) |
|---|---|
| Osteosarcoma | Female:4, Male:3 |
| Kaposi's sarcoma | Male:4, Female:1 |
| Ewing's | Female:2, Male:1 |
| Synovial sarcoma | Male:1 |
| Liposarcoma | Male:2 |
| Carcinosarcoma | Female:2 |
| Leiomyosarcoma | Male:5 |
| Rhabdomyosarcoma | Female:1 |

***Table 2: Gender***

| Type | Mean age of the patient (approx. to near 1) |
|---|---|
| Osteosarcoma | 43 |
| Kaposi's sarcoma | 27 |
| Ewing's | 34 |
| Synovial sarcoma | 38 |
| Liposarcoma | 26 |
| Carcinosarcoma | 74 |
| Leiomyosarcoma | 69 |
| Rhabdomyosarcoma | 16 |

***Table 3: Mean age of the patients***

| Type | Symptoms |
|---|---|
| Osteosarcoma | Pain in the bone and fracture |
| Kaposi's sarcoma | Painless swelling in the epigastric region |
| Ewing's | Swelling followed by fracture |
| Synovial sarcoma | Painless swelling and sudden burst in progression |
| Liposarcoma | Painless swelling |
| Carcinosarcoma | Pain like in sinusitis but without variation |
| Leiomyosarcoma | Rectal bleeding, abdominal mass. |
| Rhabdomyosarcoma | Anal pain. |

***Table 4: symptoms***

| Type | Commonest site (decreasing order) |
|---|---|
| Osteosarcoma | Femur, Tibia, Humerus |
| Kaposi's sarcoma | Epigastric |
| Ewing's | Femur, Scapula, Pelvis |
| Synovial sarcoma | Finger (middle phalanx and distal phalanx) |
| Liposarcoma | Back |
| Carcinosarcoma | Maxilla |
| Leiomyosarcoma | Small intestine, colon, anal canal. |
| Rhabdomyosarcoma | Anal. |

***Table 5: Common site***

| Type | Mean size (approx. to near 1) |
|---|---|
| Osteosarcoma | 11cms |
| Kaposi's sarcoma | 5cms |
| Ewing's | 12cms |
| Synovial sarcoma | 7cms (circumference) |
| Liposarcoma | 16 cms |
| Carcinosarcoma | 8cms |
| Leiomyosarcoma | 17cms |
| Rhabdomyosarcoma | 7cms |

***Table 6: Mean size of the tumour when diagnosed***

| Type | Treatment |
|---|---|
| Osteosarcoma | 1. Total resection of the bone in 3 patients.<br>2. Partial resection and reconstruction in 4 patients. |
| Kaposi's sarcoma | Wide resection |
| Ewing's | Partial resection and reconstruction. |
| Synovial sarcoma | Amputation of the finger. |
| Liposarcoma | Wide resection |
| Carcinosarcoma | Surgical resection |
| Leiomyosarcoma | 1. Abdomino-peritoneal resection: 3 patients.<br>2. Left Hemicolonectomy |
| Rhabdomyosarcoma | No surgery was conducted |

***Table 7: Surgical treatment and survival***

| Type | Treatment |
|---|---|
| Osteosarcoma | Total resection of the bone: All three patients died after 1 year.<br>Partial resection and reconstruction: Two people survived after one year. |
| Kaposi's sarcoma | Wide resection: All patients died of the disease and other complications of HIV. |
| Ewing's | Partial resection and reconstruction: One survived after one year, one died and the other could not be traced |
| Synovial sarcoma | Amputation of the finger. Survived with no recurrence |
| Liposarcoma | Wide resection: Both survived at one year |
| Carcinosarcoma | Surgical resection: Both died due to metastasis |
| Leiomyosarcoma | Abdomino-peritoneal resection: All three showed metastasis<br>Left Hemicolonectomy: Both died due to metastasis |
| Rhabdomyosarcoma | No surgery was conducted. Patient already was in coma. Glasgow coma scale less than 5 when admitted. |

***Table 8: Mean survival after the surgical treatment***

**DISCUSSION:** As told earlier the sarcomas are a result of unnatural proliferation of the mesenchymal cells. They are rare when compared to the carcinomas which is a result of epithelial cell proliferation outbursts.

Mainly it can be classified into two types.

Type one contains all hard connective tissue like bones and cartilages. Eg: Askin's tumour, Sarcoma botryoides, Chondrosarcoma, Ewing's, Malignant Hemangio-endothelioma, Malignant Schwannoma, Osteosarcoma.

**Soft Tissue sarcomas include:** Alveolar soft part sarcoma, Angiosarcoma, Cystosarcoma Phyllodes, Dermatofibrosarcoma protuberans, Desmoid Tumour, Desmoplastic small round cell tumour, Epithelioid Sarcoma, Extraskeletal chondrosarcoma, Extraskeletal osteosarcoma, Fibrosarcoma, Gastrointestinal stromal tumour (GIST), Hemangiopericytoma, Hemangiosarcoma, Kaposi's sarcoma, Leiomyosarcoma, Liposarcoma, Lymphangiosarcoma, Lymphosarcoma, Malignant peripheral nerve sheath tumour (MPNST), Neurofibrosarcoma, Rhabdomyosarcoma, Synovial sarcoma.

In the present study we obtained 26 patients. The treatment consisted mainly of surgical resection and applying chemotherapy and radiotherapy. In some cases, like Ewing's the chemotherapy was applied first so that the size of the tumour decreases and then the surgical resection was done.

Soft tissue sarcoma was the predominant one and the osteosarcoma was also fairly seen.

The sarcomas all together were seen more in males when compared to females.

The age variation was seen from second decade to seventh decade.

But in some cases like Kaposi's it was observed in sexually active groups. All the people was seropositive for the retrovirus.

The surgical resection was the choice but the relapse was seen in 82% of the cases.

**CONCLUSION:** The sarcomas clinically are very hard to be diagnosed. But the slightest doubt should be immediately sent for further investigations. The survival of the patient depends on the extent of metastasis and the primary identification. The study forms a base for further studies. So atleast it could be diagnosed earlier and treated to the full extent.

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