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Recent trend of clinico-pathological presentation of malignant soft tissue sarcoma patients - a retrospective study at Regional Institute of Medical Sciences (RIMS), Manipur

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Abstract

Background: *Increasing incidence of soft tissue sarcoma (STS) in recent years has created a major health problem. Knowledge of clinical presentation of patients with soft tissue sarcoma may help in planning prevention, early detection and treatment of STS in this region (MANIPUR)*

Methods: *This is a retrospective case study on 55 cases of STS patients who were registered at Regional Institute of Medical Sciences, Manipur during the period from January, 2015 to December, 2018. The data were analyzed using SPSS-21 and the results were presented in percentage and simple frequency.*

Result: *Among the patients, the ages ranged from 14 to 81 yrs. Maximum number of patients reaches a peak between 60 - 81 years (56.0%). Painless mass (52%) was the most common presentation, 6% presented with only pain, 32% presented with painful mass. Duration of symptoms was less than 6 months for more than half of the patients (52%). In this study, maximum (42%) of STS cases were found in extremities (upper limb and lower limb), most commonly in the lower extremity (26%). 12%, 8%, 10% and 12% of STS cases were found in retroperitoneum, abdominal wall / trunk, head and neck region and pelvic cavity respectively. Very less number (14%) of cases were found in the other parts of the body. According to this study, we had data on 12 histological subtypes of STS, among which leiomyosarcoma had maximum incidence (22%), followed by fibrosarcoma (12%), liposarcoma (12%) and GIST (12%), sarcoma not otherwise specified (10%) and less percentage of other rare subtypes (malignant fibrous histiosarcoma- 4%, rhabdomyosarcoma-6%, peripheral nerve sheath tumour-4%, extra skeletal ewing's sarcoma-6%, kaposi's sarcoma-8%, sarcomatoid mesothelioma-2%, neuroblastoma-2%) also found. In this study, half of the patients (50%) had tumour size of 5-10 cm and 24% patients had node positivity and 18% of patients had metastatic disease at the time of diagnosis.*

Conclusion: *Majority of the patients was males (52%) and most of the patients were in the age group of 60-81 years. From among the types of STS, leiomyosarcoma has the highest incidence (22%). 42% of STS cases were found in the extremities, most commonly in the lower extremity (26%). At the time of diagnosis, 24% of patients had node positive and 18% had metastatic disease. Knowledge of clinical presentation of patients with soft tissue sarcoma may help in planning prevention, early detection and treatment of STS in this region (MANIPUR)*

Keywords: *Clinical presentation, Histopathology, Soft tissue sarcoma.*

Introduction

Sarcomas are rare, representing ~ 1 % of all malignancies, with 80% of these being STS and 20% originating in bone. Benign soft tissue masses are much more common than STS. Soft tissue sarcomas (STS) constitute a heterogeneous group of rare malignancies that vary extensively by anatomic location, histology, and biologic behavior. They can occur at any anatomic site and may arise from many soft tissues including connective tissues, fat, muscle, vascular tissue, peripheral neural tissue, or visceral tissue. Annually, there are about 12,400 expected new cases of STS in the United States, and these accounts for approximately 0.7% of all new cancer diagnoses[1]. There are very less data on malignant STS statistics in Indian study on soft tissue sarcoma.

The median age at diagnosis for all STS is 65 years, but incidence varies by histologic subtype. For the great majority of STS, there is no known etiology. Minority of cases can be attributed to environmental or genetic factors [14].

The aim of this study was to describe the recent trend of clinical presentation of malignant soft tissue sarcoma patients. Knowledge about clinical presentation may be useful not only in treatment planning but also in early detection of STS patients, attending at Regional Institute of Medical Sciences, Manipur and we have compared the data with relevant published national and international reports.

Methods

This study is a descriptive study on 55 cases of soft tissue sarcoma (STS) who were registered at Regional Institute of Medical Sciences (RIMS), Manipur during the period from 1st January 2015 to 31st December 2018. But among those cases, 5 cases lost follow up. So, in this study 50 patients were reviewed for clinical presentations like ages, presenting symptoms, tumor size and location, lymph nodes positivity etc. Cases without complete information and other cases that had history of previous cancer treatment prior to registration were excluded in the present study.

Confidentiality of the patients' identities was maintained. The data were analyzed using SPSS-21 and descriptive statistics was used as type of statistical analysis test.

Results

In this study, age of the patients ranged from 14 to 81 yrs. Maximum number of patients were between 60 - 81 years (56.0%), then begins to decline in the age group of 40-59 years (28%) and only 16% patients were below 40 years. Male patients were slightly more (52%) compared to female patients (48%).

Painless mass (52%) was the most common presentation, 6% presented with only pain (without mass), 32% presented with painful mass, 6% presented with weakness / tingling and only 4% patients had other associated symptoms (fever / headache / skin discolourisation etc). Duration of symptoms were less than 6 months for 52% of patients, 6-12 months for 30% of patients and only 18% patients had history of more than 12 months of symptoms before diagnosis.

Though STS can occur in all body sites; but in this study maximum (42%) of STS cases were found in extremities (upper limb and lower limb), most commonly in the lower extremity. 30% of STS were found in retroperitoneum, abdominal wall / trunk and H&N region, with slightly more in retroperitoneum. STS also found in pelvic cavity (12%), skin (2%), lung (2%), intestine (6%), kidney (2%), axilla (2%), chest wall (2%).

World Health Organization (WHO) International Classification of Diseases for Oncology; third Edition (ICD-O-3), identifies more than 50 histological subtypes of STS based on inferred cell type of origin and other histological and molecular features[3]. According to this study, we had data on 12 histological subtypes of STS (shown in table- 2). Among all types of STS, leiomyosarcoma had maximum incidence (22%), followed by fibrosarcoma (12%), liposarcoma (12%), GIST (12%) and sarcoma not otherwise

specified (10%). Other subtypes were kaposi's sarcoma (8%), rhabdomyosarcoma (6%), extra-skeletal ewings sarcoma (6%), malignant fibrous histiosarcoma (4%), peripheral nerve sheath tumour (4%), sarcomatoid mesothelioma (2%) and neuroblastoma (2%).

In this study, half of the patients (50%) had tumour size of 5-10 cm, 34% patients had below 5 cm and only 16% patients had tumour size of more than 10 cm. 24% of patients had node positivity and 18% of patients had metastatic disease at the time of diagnosis (table-2).

Table-1: Clinical presentation of soft tissue sarcoma (n=50)

Variables	Frequency	Percentage (%)
AGES (YEARS)		
<40	8	16
40-59	14	28
60 / above 60	28	56
SEX		
Male	26	52
Female	24	48
PRESENTING SYMPTOMS		
Mass	26	52
Pain	3	6
Mass and Pain	16	32
Weakness / tingling	3	6
Others (fever / headache / skin decolourisation etc)	2	4
DURATION OF SYMPTOMS (MONTHS)		
<6	26	52
6-12	15	30
>12	9	18
LOCATION OF STS		
Lower Limb	13	26
Upper limb	8	16
Retroperitoneum	6	12
Abdominal wall / trunk	4	8
Head & neck	5	10
Pelvic cavity	6	12
Skin	1	2
Lung	1	2
Intestine	3	6
Kidney	1	2
Axilla	1	2
Chest wall	1	2

Table-2: Histopathological data (n=50)

Variables	Frequency	Percentage (%)
HISTOLOGICAL TYPES		
Leiomyosarcoma	11	22
Fibrosarcoma	6	12
Liposarcoma	6	12
Malignant fibrous histiosarcoma	2	4
Rhabdomyosarcoma	3	6
Peripheral nerve sheath tumour	2	4
Extraskeletal ewings sarcoma	3	6
Sarcoma not otherwise specified	5	10
Kaposi's sarcoma	4	8
Sarcomatoid Mesothelioma	1	2
GIST	6	12
Neuroblastoma	1	2
TUMOUR SIZE (Cm)		
<5	17	34
5-10	25	50
>10	8	16
NODE		
Present	12	24
Absent	38	76
METASTASES (at diagnosis)		
PRESENT	9	18
ABSENT	41	82

Conclusion

In the present study, majority of the patients (56%) were in the age group of 60-81 years. Male patients were slightly more (52%) in comparison to female patients. The most common presentation was painless mass (52%) and for maximum (52%) of patients, the duration of symptoms was < 6 months. Maximum (42%) of STS cases were found in extremities (upper limb and lower limb), most commonly in the lower extremity (26%). Twenty-four percent (24%) of patients were node positive and eighteen percent (18%) had metastatic disease at the time of diagnosis. Majoroity of patients (50%) had tumour size of 5-10 cm. Among all types of STS, leiomyosarcoma had maximum incidence (22%), followed by fibrosarcoma (12%), liposarcoma (12%), GIST (12%), sarcoma not otherwise specified (10%) and other subtypes were very less in number.

Delay in treatment of soft tissue sarcoma and further increased incidence rate could be minimized in this region by improving the

awareness regarding clinical presentation and risk factors. Early detection of histo-pathology related data of STS also can improve the treatment outcome.

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