Original Research Article

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Histopathological Spectrum of Soft Tissue Tumors in Rural Population

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Abstract

Background: Soft tissue tumors are defined as non epithelial, extra skeletal tissue of the body exclusive of the reticulo-endothelial system, glia, and supporting tissue of various parenchymal organs. Soft tissue tumours constitute a large and heterogenous group of neoplasms. WHO has classified soft tissue tumors in different categories like Adipocytic tumors, Fibroblastic/Myofibroblastic, Fibro-histiocytic, Smooth muscle, Pericytic, Skeletal muscle, Vascular, Chondro-osseous & tumors of uncertain differentiation. These are further subdivided into benign, intermediate & malignant. This study aims to analyze the histopathological findings of soft tissue tumors and their distribution according to age, sex and site of occurrence in patients. *Aims and Objectives:* To study the macroscopic and microscopic pathology of benign and malignant soft tissue tumour and there clinico-pathological correlation at rural set up. *Materials and Methods:* The study was conducted in Indian Institute of Medical Sciences Medical College, Warudi Dist. Jalna, from 1st of January 2017 to November 2017. A Cross sectional study of 151 cases of soft tissue tumors were carried out in details. A pretested proforma was used to classify each tumor and details like age, sex, clinical features, gross and microscopic findings were noted. *Results:* The most common soft tissue tumor in the study were benign tumors (139 cases), followed by malignant (8 cases) and four cases were reported as intermediate. Lipomas were the most common benign tumors accounting for 99 out of 139 cases. Benign peripheral nerve sheath tumors were the next most common tumor accounting for 22 cases. Benign vascular tumors (10) and benign Fibroblastic-Myofibroblastic tumors (5) accounted for 15 cases. Of 10 cases of benign vascular tumor, all cases were of hemangioma. Of 22 benign peripheral nerve sheath tumors, 12 cases were reported as neurofibroma and 10 schwannomas. Of 7 cases of Fibrohistiocytic tumor, 3 cases were benign, 2 cases of intermediate (Dermatofibrosarcoma protuberance) and 2 cases of malignant fibrous histiocytoma (MFH). Of 8 cases of Fibroblastic/Myofibroblastic tumor, 5 cases were of Benign and 3 cases of malignant variant (Two Fibro sarcoma and one low grade fibromyxoid sarcoma). 8 out of 151 cases were malignant tumors, 2 cases were malignant fibrous histiocytoma (MFH) and 2 were fibrosarcoma whereas malignant peripheral nerve sheath tumor (MPNST), Liposarcoma, low grade fibromyxoid sarcoma and Embryonal Rhabdomyosarcoma accounted for one case each. *Conclusion:* Benign soft tissue tumors outnumbered malignant tumors by a ratio of 17:1. Lipomas were the most common benign tumors and Malignant fibroblastic/Myofibroblastic tumors were the most common malignant tumors in the present study. Most patients with soft tissue neoplasm presented with painless mass. Sarcomas, for the most part develop as deeply located mass. Hematoxylin and eosin stained sections represented the mainstay of diagnosis.

Keywords: Tumors; Hematoxylin; Fibrosarcoma; Parenchymal Organs.

Introduction

Soft tissue tumours constitute a large and heterogenous group of neoplasms. These tumours may arise in any location, 40% occur in the lower extremities especially the thigh, 20% in the upper extremities, 10% in the head and neck and 30% in the trunk and retroperitoneum. Benign mesenchymal tumours outnumber sarcomas by a factor of 100. Benign tumours are roughly equally distributed across all parts of the body with a slight predilection for the upper parts i.e. head and neck and trunk region. Of the benign soft tissue tumours, 99% are superficial in

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location and 95% of tumours average less than 5 cm in size [1].

Soft tissue sarcomas compared with carcinomas and other neoplasms are relatively rare and constitute less than 1% of all the cancer. Soft tissue sarcomas may occur anywhere in the body but most arise from large muscle of extremities, the chest wall, the mediastinum and the retroperitoneum.

They occur at any age and like carcinomas are more common in older patients, about 15% affect persons younger than 15 years, and 40% affect persons 55 years or older [2]. More than 50 histological types of malignant soft tissue tumors have been identified, the most common being malignant fibrous histiocytoma (28%) followed in the descending order of frequency by fibrosarcoma (25%), rhabdomyosarcoma (24%), leiomyosarcoma (12%), liposarcoma(15%) and synovial sarcoma(10%) [3]. Most soft tissue tumors are classified as either benign or malignant, but still there is an intermediate group which typically shows locally aggressive behavior and a low-to-moderate chance for metastasis [4].

Genetic factors, environmental factors, irradiation, viral infections and immune deficiency have been found to be associated with development of unusually malignant soft tissue tumors. There has also been reports of sarcoma arising from surgical procedures or thermal or acid burns, a fracture site and vicinity of plastic or metal implant usually after latent period of several years [5].

Environmental carcinogens have also been reported to development of sarcomas e.g.- asbestos, phenocyacetic acid, chlorophenols and their contaminants. Radiation induced soft tissue sarcomas are quite uncommon [6].

Several benign soft tissue tumors have been attributed to occur in familial or inherited basis. The most common examples are probably hereditary multiple lipoma (often angiolipomas). Desmoid tumors occur in patients with familial Gardner syndrome. Neurofibromatosis (type 1 and 2) is associated with multiple benign nerve tumors. Near around 2% of the patients with neurofibromatosis type 1 develop malignant peripheral nerve sheath tumors [7].

Grading is the best predictor of metastasis outcome in adult soft tissue sarcomas and should be part of the pathologic report. Histological grade and tumor size are equally important [8]. The most commonly used grading systems for soft tissue tumors are the French grading and the National Cancer Institute grading. Both are 3-grade systems and are mainly based on histological type and the subtype, tumour necrosis and mitotic activity [9].

Aims and Objectives

1. To analyse the various types and subtypes of soft tissue tumors.
2. To find out the incidence of benign and malignant soft tissue tumours.
3. To estimate the age, sex and location of benign and malignant soft tissue tumour.
4. To study the macroscopic and microscopic pathology of benign and malignant soft tissue tumor.

Materials and Methods

The study was conducted in department of pathology, IIMSR Medical college warudi, Jalna, from 1st of January 2017 to November 2017. Total 151 cases of soft tissue tumors were analyzed in the study period. Formalin fixed paraffin embedded sections were stained with Haematoxylin and Eosin and studied (H & E). The histopathological diagnosis was given and thus results obtained were analyzed. The cases were further divided into following categories:

1. Lipomatous tumor
2. Smooth muscle tumors
3. Skeletal muscle tumors
4. Fibroblastic/Myofibroblastic tumors
5. Fibrohistiocytic tumors
6. Peripheral nerve sheath tumors
7. Blood vessel tumors.

These cases were classified as benign, intermediate or malignant according to histopathological diagnosis. In each case, tumor were futher subclassified and details like age, sex, clinical features, gross and microscopic findings were noted. Following criteria are used.

Inclusion Criteria

- Trucut biopsies and excision biopsy specimens
- Osseous, cartilaginous and calcified neoplasia of soft tissues not associated with underlying bone.

Exclusion Criteria

- Tumor like soft tissue lesions on histopathology
- Primary bone tumors
- Inadequate samples

Results

Out of total 151 cases in our study, 139 cases were benign in nature, 4 cases were intermediate and 8 were malignant [Table 1]. Of 100 lipomatous tumors, 99 cases were lipoma and one case was of liposarcoma. 85/99 cases (85.9%) of lipoma were classical type and 11/99 cases (11.11%) were fibrolipoma. Rests of the lipoma were classified as angiolipoma (3%). The highest number of cases, 57/99 (57.8%) were reported in the 3rd and 5th decade of life together, with trunk being the commonest site with 40/99 cases (40.4%) and 34. [Table 2,3,4]. Benign peripheral nerve sheath tumors were the next most common tumor accounting for 22 out of total 151 cases with maximum no of cases (15) in 3rd and 4th decade together. 12 out of 22 were schwannomas (54.4%) and 10 were neurofibroma (45.6%). Total 11 vascular tumors were seen. Benign vascular tumors accounted for 10 cases. Out of the 10 cases of benign blood vessel tumors, all cases (100%) were reported as Haemangioma. 5/10 cases were capillary hemangioma and 4/10 cases were cavernous hemangioma and 1/10 cases was epithelioid hemangioma. 7/10 cases (70%) were reported in the 1st and 2nd decade of life, with slight male predominance 6/10 cases (60%) and Head and neck region was the commonest location 5/10 cases (50%) [Table 2,3,4]. One case was diagnosed as hemangioendothelioma and included under intermediate category according to WHO classification. Malignant tumor in this category was not observed in the present study. Of 5 benign fibroblastic/Myofibroblastic tumors 4 were fibroma and 1 was myositis ossificans. Myositis ossificans was seen in 25 years old young male with a calcified mass in bicep muscle. 3 cases of benign Fibrohistiocytic tumors were noted. Out of 3 cases, 2 were benign fibrous histiocytoma and 1 was giant cell tumor of tendon sheath. 2 cases of Dermatofibrosarcoma protuberance (DFSP) were included in intermediate category. Both cases were seen in males in 5th decade.

Malignant tumors (5.3%) were far less in number as compared with benign counterparts (92.1%). The most common malignant tumors were from fibroblastic/myofibroblastic tumors category (37.5%). It includes two fibrosarcomas and one low grade fibromyxoid sarcoma. Both the fibrosarcoma were seen in old aged males, one on back and other on arm while low grade fibromyxoid sarcoma was seen in 57 yr old female on thigh. The second most common malignant soft tissue tumors were from Fibrohistiocytic category which includes two malignant fibrous histiocytoma (25%). One case of rhabdomyosarcoma was seen in 8yr female child presented with mass on thigh since 1 yr. Leiomyosarcoma, angiosarcoma were not seen in present study. IHC was advised in all intermediate and malignant cases and these cases were referred to higher centers.

Table 1: Total 151 cases were divided under following category

Type of tumor	Benign	Intermediate	Malignant	Total
Lipomatous tumor	99	0	1	100
Smooth muscle tumor	1	0	0	1
Blood vessel tumor	10	1	0	11
Fibrohistiocytic tumor	2	3	2	7
Fibroblastic-Myofibroblastic tumor	5	0	3	8
Peripheral nerve sheet tumor	22	0	1	23
Skeletal muscle tumor	0	0	1	1
Subtotal	139	4	8	
Total				151

Table 2: Age wise distribution of soft tissue tumors

Age group (Yrs)	Lipomatous Tumor	Vascular tumors	Peripheral nerve sheath tumors	Skeletal muscle tumors	Smooth muscle tumor	Fibroblastic-Myofibroblastic tumor	Fibro Histiocytic tumors
0-10	1	2	0	1	0	0	0
11-20	3	5	2	0	0	0	0
21-30	29	1	6	0	0	4	1
31-40	23	1	9	0	1	0	2
41-50	28	1	3	0	0	1	4
51-60	12	1	1	0	0	3	0
61-70	4	0	2	0	0	0	0
>71	0	0	0	0	0	0	0
Total	100	11	23	1	1	8	7

Table 3: Site wise distribution of soft tissue tumors

Distribution of tumors	Head and neck face	Trunk	Upper extremity	Lower extremity
Lipomatous tumors	35	40	15	10
Vascular tumors	5	3	3	0
Nerve sheeth tumor	7	5	10	0
Fibroblastic-Myofibroblastic tumor	0	2	5	1
Fibrohistocytic tumor	1	3	2	1
Smooth muscle tumor	0	0	0	1
Skeletal muscle tumors	0	0	0	1
Total			151	

Table 4: Histopathological subtypes of soft tissue tumors

Type	Cases	Subtotal
Lipomatous tumor		
Fibrolipoma	11	100
Angiolipoma	3	
Lipoma classical	85	
Liposarcoma	1	
Blood vessel tumor		
Haemangioma (Capillary and Cavernous)	9	11
Epithelioid hemangioma	1	
Hemangioendothelioma	1	
Peripheral nerve sheath tumor		
Neurofibroma	12	23
Schwannoma	10	
MPNST	1	
Smooth muscle tumor		
Leiomyoma	1	1
Fibroblastic-Myofibroblastic tumor		
Fibroma	4	8
Myositis Ossificans	1	
Fibrosarcoma	2	
Low grade fibromyxoid sarcoma	1	
Fibrohistocytic tumor		
Benign fibrous histiocytoma (BFH)	2	7
Giant cell tumor of tendon sheath	1	
Dermatofibrosarcoma protuberance (DSFP)	2	
Malignant fibrous histiocytoma (MFH)	2	
Skeletal muscle tumor		
Rhabdomyosarcoma	1	1
Total		151

Table 5: Sex distribution of soft tissue tumors in various studies

Study	M:F Ratio
Jain et al[10]	1.2:1
Kransdorf et al[11]	1.2:1
Batra et al[12]	2.1:1
Mandong et al[13]	2:1
Beg et al[14]	1.8:1
Narayanan et al[15]	1.7:1
Present study	1.2:1

Table 6: Distribution of soft tissue tumors in various studies

Study	Benign	Intermediate	Malignant
Jain et al[10]	90.6%	-	9.4%
Kransdorf et al [11]	60.2%	-	39.8%
Batra et al[12]	89.2%	-	10.8%
Petersen et al[16]	35%	16%	49%
Narayanan et al[15]	93.8%	3.4%	2.8%
Gogoi et al[17]	92.3%	-	7.7%
Harpal et al[18]	84.5%	5.5%	10%
Umarani et al[19]	92.7%	2.3%	5%
Present study	92%	2.8%	5.2%

Table 7: Comparison of cases of soft tissue tumors in various studies

Tumor Differentiation	Agravat et al [20]	Harpal et al[18]	Present study
Total number of cases	100	200	151
Adipocytic	33	92	100
Vascular	22	36	11
Peripheral Nerve sheath	19	21	23
Fibroblastic/Myofibroblastic	9	18	8
So called Fibrohistiocytic	12	14	7
Smooth Muscle	1	4	1
Pericytic	0	1	0
Skeletal Muscle	1	1	1
Uncertain origin	1	0	0
Could not be categorized	2	13	0

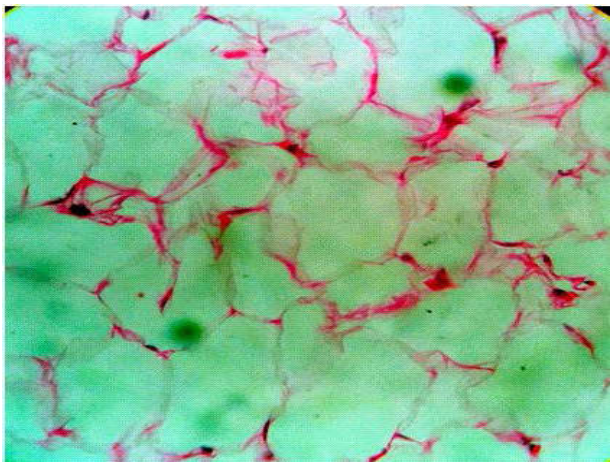

Fig. 1: (H&E,40X) shows lobules of mature adipocytes separated by fibrovascular septa (Lipoma)

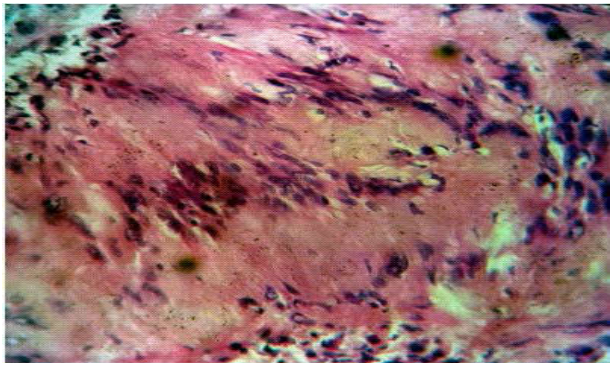

Fig. 2: (H&E,40X) shows Verucoy bodies showing palisading of nuclei (Schwannoma)

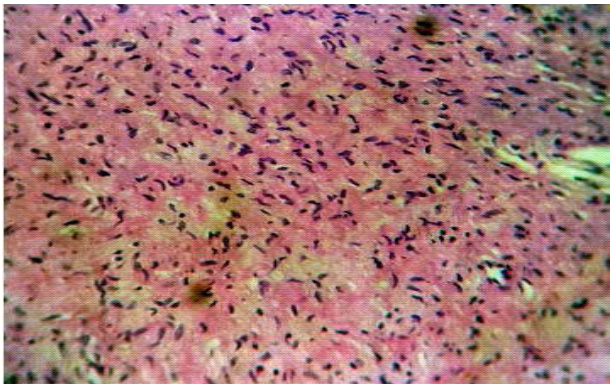

Fig. 3: (H&E,40X) shows spindle shaped cells with elongated wavy nuclei (Neurofibroma)

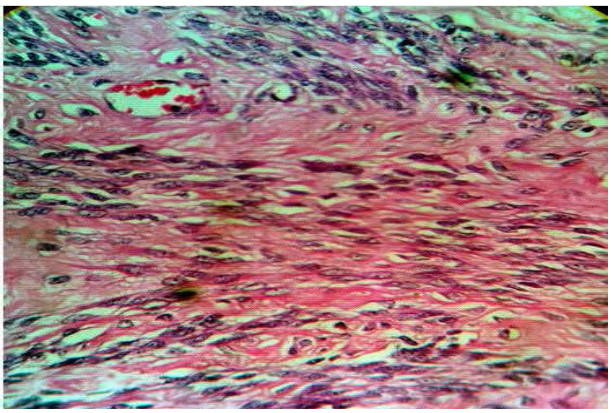

Fig. 4: (H&E,40X) shows spindle shaped cell with elongated blunt ended nuclei arranged in interlacing fascicles and bundles. (Leiomyoma)

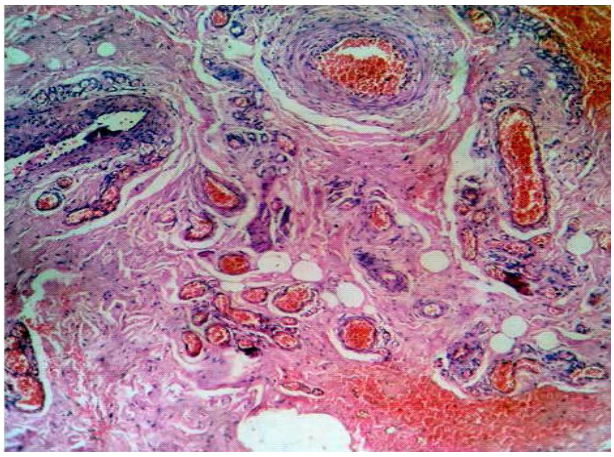

Fig. 5: (H&E,40X) shows many small to medium sized blood vessels filled with blood and arranged in lobules. (Hemangioma)

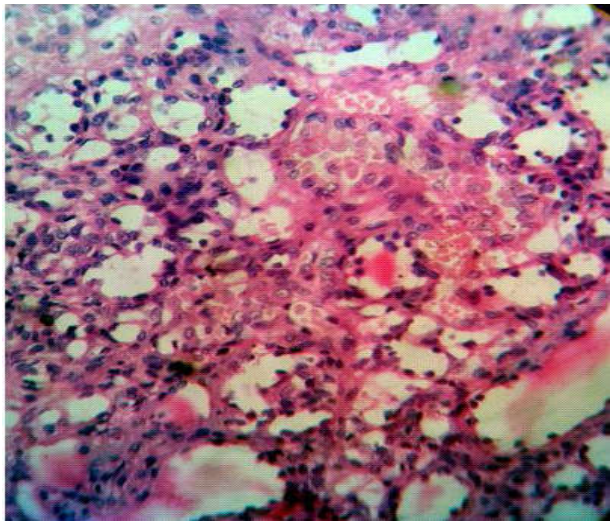

Fig. 6: (H&E,40X) shows many vascular channels lined by plump epithelioid cells. (Epithelioid hemangioendothelioma)

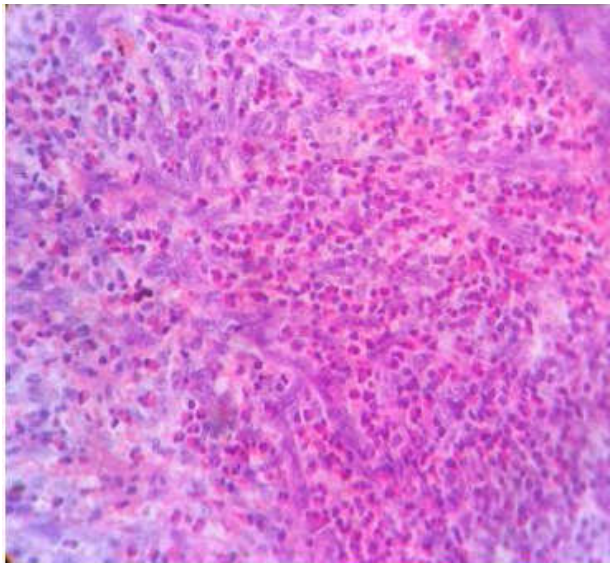

Fig. 7: (H&E,40X) shows proliferation of small capillary sized immature vessels lined by plump epithelioid cells and surrounding eosinophilic infiltration. (Epithelioid hemangioma)

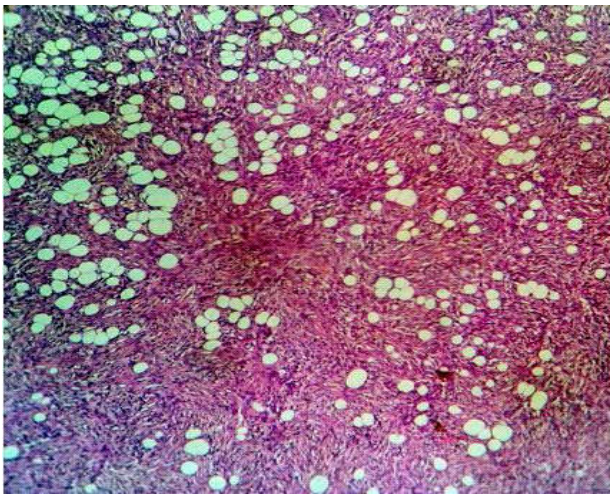

Fig. 8: (H&E,40X) shows tumor with fat entrapment at advancing edge. (Dermatofibrosarcoma protuberence)

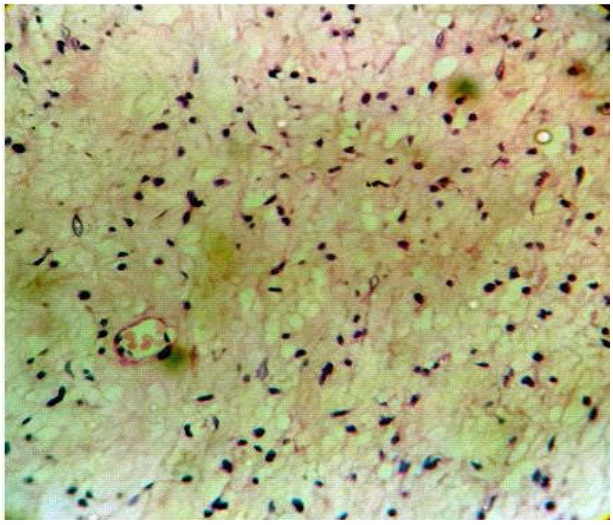

Fig. 9: (H&E,40X) shows tumor composed of pleomorphic spindle cells against Myxoid background. (Low grade fibromyxoid sarcoma)

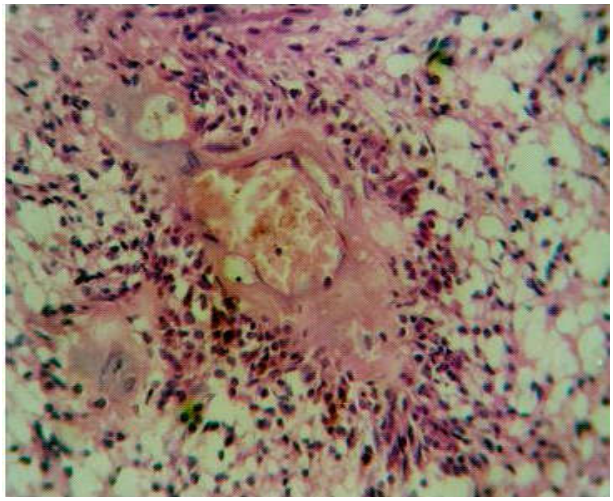

Fig. 10: (H&E,40X) shows tumor cells arranged around blood vessels- Peritheliomatous pattern (Low grade fibromyxoid sarcoma)

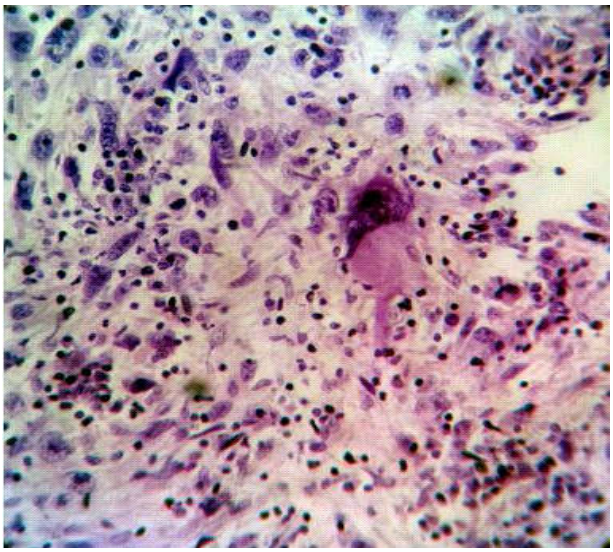

Fig. 11: (H&E,40X) shows highly pleomorphic bizzarre tumor cells (Malignant fibrous histiocytoma- Pleomorphic-storiform varient.)

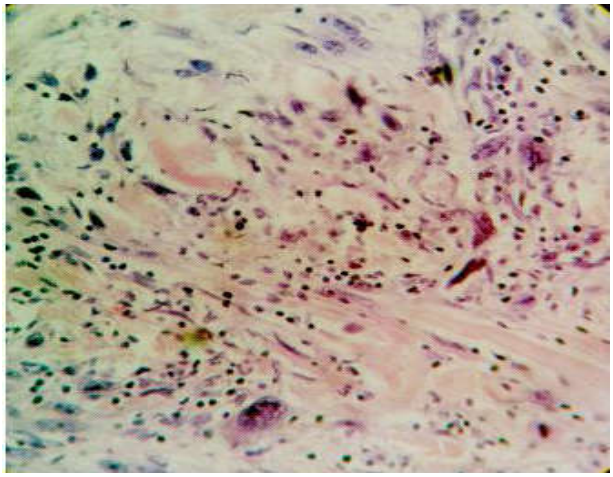

Fig. 12: (H&E,40X) shows highly pleomorphic tumor cells (Malignant fibrous histiocytoma- Pleomorphic-storiform varient.)

Fig. 13: (H&E,10X) shows tumor cells arranged in herringbone pattern (Fibrosarcoma)

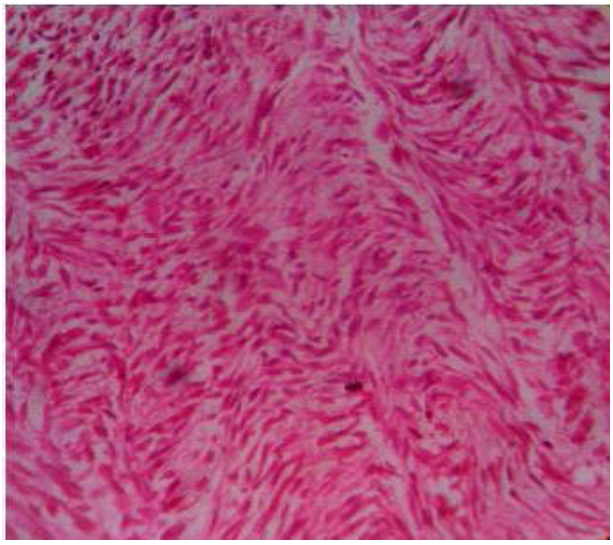

Fig. 14: (H&E,40X) shows tumor cells arranged in herringbone pattern (Fibrosarcoma)

Discussion

Soft tissue tumors are relatively rare and constitute less than 1% of all the cancers. Benign mesenchymal tumors outnumbered sarcomas by the factor of at least 100. Lipomas are the most common neoplasm of mesenchymal origin arising in any location where adipocytes are found.

In present study, there were 139 benign soft tissue tumours, out of which 99 cases were reported as lipomas which formed largest group among all benign soft tissue tumors, with peak incidence in 3rd decade and commonest location being trunk. In our study we analyzed that benign soft tissue tumors out number their malignant counter parts and soft tissue sarcoma is extremely rare and accounts for less than 1% of all cancers. Similar findings were seen in Enzinger [4].

In the present study majority of benign soft tissue tumors occurred in second, third, fourth and fifth decade of life, which were in correlation with Enzinger and Weiss [4]. On gross examination, lipomas presented as encapsulated, yellow, glistening mass, size ranging from 3-16 cm. The cut section of mass is yellowish greasy. Microscopic examination revealed lobules of mature adipocytes admixed with dilated congested blood vessels and fibrous tissue in few cases. Of the 8 malignant soft tissue tumors in the present study, one case was reported as liposarcoma on the lateral aspect of thigh of 50 year male patient. Gross examination showed ill circumscribed yellow, greasy soft tissue, mass with attached muscle with focal hemorrhagic areas on cut surface. On microscopic examination tumor composed of sheets of adipocytes

with eccentric placed irregular hyperchromatic nuclei with indentation and vacuolated cytoplasm separated by fibrous septae with focal areas of myxoid change and chronic inflammatory cell infiltrate. In a study by Sharon and Weiss [21], the most common location of liposarcoma was extremity. Our findings were in concordance with their study. Similar findings were seen in study of Harpal et al [18] and Anitha et al [22].

Following adipocytic tumors, next most common tumor under benign category were benign peripheral nerve sheath tumours. 22 (14.6%) cases were reported in this category. In a similar study of 200 cases, Harpal et al [18] found 21 (10.5%) cases of peripheral nerve sheath tumors of which all were benign, 10 were neurofibroma and 11 were schwannoma. In our study, neurofibroma were outnumbered with 12/22 cases (54.5%), as compared to schwannoma 10/22 (45.5%) cases. In a study by Donner et al [23], 288 benign tumors of major peripheral nerve were reported with neurofibroma as the most common followed by schwannoma which correlated with our study. In study by Narayanan et al [15], schwannoma (12/19) were outnumbered than neurofibroma (7/19). Gross examination of neurofibroma revealed a solid cut section with gelatinous appearance. Microscopy revealed tumor with elongated spindle cells with wavy nuclei. Grossly, schwannoma were encapsulated, yellow white in appearance. Microscopy revealed Antony A and Antony B areas. This is similar to study conducted by Bhatoe et al [24] who also confirmed schwannoma histologically by mixture of Antony A & Antony B areas MPNST account for approximately 5-10% of all soft tissue tumors, about one fourth to half occur in setting of neurofibromatosis. We reported 1 case of MPNST in 66 yr male patient. Grossly, patient presented as large grey white, fleshy, hard swelling with focal necrotic and blackish areas. Microscopy showed malignant tumor composed of slender predominantly spindle shaped cells with wavy nuclei arranged in interlacing fascicles. Tumor cells showed pleomorhism, hyperchromatism with scant amount of eosinophilic cytoplasm. Few hypocellular and hypercellular areas were also seen with intervening stroma showing mononuclear cell infiltrate with focal areas of necrosis. Sharma et al [25] also observed only 1 case of MPNST out of total 170 cases.

The sex distribution in the present series is comparable with findings of the study conducted by Sir Stanford Cade [26] who also observed a preponderance of soft tissue tumors in men. In our study, of the total 151 patients, 83 were males & 68 were females with a male to female ratio of 1.2:1. Jain et al [10] also found similar sex ratio. (Table 5). In study by Harpal et al [18], sex ratio was 1.1:1.

One case benign smooth muscle tumor was seen. Leiomyoma are usually seen in uterus but can be seen at any site harboring smooth muscles like blood vessels, intestine etc. In our study, tumors of uterus were not included. One case of leiomyoma of thigh was seen in young female presented as grayish white well circumscribed firm mass with whorled appearance on cut surface. Microscopy showed benign spindle shape cells arranged in interlacing fascicles and bundles. In a study by Jobanputra et al [27], 30 cases of benign smooth muscle tumors were seen out of 140 total cases. This contradiction may be due to exclusion of uterine tumours in our study.

In our study 10 cases of benign vascular tumor were reported, and 1 case of hemangioendothelioma was seen which was classified under tumors of intermediate grade. Head and neck region was commonest location with peak incidence in 2nd decade with male predominance. Gross examination of all showed brownish, soft, polypoidal masses ranging from 0.5 to 4 cm. Microscopic examination showed either capillary or cavernous pattern (9 cases) displaying numerous blood vessels lined by plump endothelial cells. In few cases large dilated vascular channels were seen. One case was of epithelioid hemangioma (Angiolymphoid hyperplasia with eosinophilia) which showed a vaguely circumscribed mass in gross examination with brownish cut section. On microscopy, it showed proliferation of small vascular channels lined by plump endothelial cells along with lymphoid follicles and intermixed dense infiltration of eosinophils. Malami et al [28], study showed vascular tumor as the commonest soft tissue tumor of childhood with majority hemangiomas (27.3%), with male predominance and head and neck as common site which correlated with our findings. In study by Harpal et al [18], majority of the vascular tumors were benign (33/36) and few were of intermediate grade category (3/36) which correlated with our study. In study by Agravat et al [20], all of the vascular tumors were benign (22/22).

Our study shows 8 cases of fibroblastic/ Myofibroblastic origin. 5 were benign (4 fibroma and 1 myositis ossificans) while 3 were malignant (2 fibrosarcoma and 1 low grade fibromyxoid sarcoma) Narayanan et al [15] found 6 cases of same origin. 5 were benign and 1 malignant. This was well correlated with our study. Most cases were seen in upper extremity. Benign tumors were seen in young population and malignant tumors were seen in old population. All fibromas were well circumscribed grossly and most were skin covered. The cut section was uniform, solid and whitish. Microscopically it showed, skin covered tumor consisting of proliferation

of spindle shaped cells with elongated nuclei and dense collaginised stroma. 1 classic case of myositis ossificans was seen. Patient was young male presented with pain and difficulty in flexion of forearm. X ray showed a radio-opaque circumscribed mass in biceps muscle away from bone and joint. The excision specimen was received. Grossly it was about 4 cm in diameter and whitish on cut section. Microscopy revealed distinct zonal pattern. Outermost zone was a fibrous capsule. Inner zone consist of Irregular bony trabeculae lined by osteoblasts. The innermost zone consist of nodular fasciitis like areas of spindle cell proliferation. One case of myositis ossificans was also seen in study by Narayanan et al [15]. Three cases of sarcoma were also seen (2 fibrosarcoma and 1 low grade fibromyxoid sarcoma). Our study showed that fibrosarcoma is rare tumour. This rarity was also seen in study by Narayanan et al [15] (1/6 cases), Harpal et al [18] (2/18 cases). Jobanputra et al [27] found 4 cases of malignant fibroblastic/Myofibroblastic origin out of 11 cases in same category. Grossly, fibrosarcoma was grey white, fleshy, ill circumscribed mass about 10 x8x5 cm with area of necrosis and hemorrhages. Microscopy showed an infiltrative tumor composed of cells arranged in fascicles and herring bone pattern. A case of low grade fibromyxoid sarcoma was seen which showed myxoid areas grossly and microscopically it showed hypocellular spindle cell proliferation with myxoid stroma. Tumor cells were seen arranged around blood vessels (Peritheliomatous pattern).

In our study 7 cases of Fibrohistiocytic tumor was reported, 2/7 cases were benign fibrohistiocytic tumor, 2 intermediate grade (DFSP), 2 malignant (MFH) and 1 was giant cell tumor of tendon sheath. Both cases of benign fibrous histiocytoma were noted in males and site was upper extremity. These findings are similar with study of Chakrabarti et al [29]. Two cases of intermediate malignancy i.e, DFSP were reported one was 45 year old male and other was 39 yr old male patient. In both cases, swelling was present over arm. In study by Chakrabarti et al [29], one case of DFSP was seen in 45 yr male patient on abdomen. Grossly, tumor was 4 cm in diameter, grey white, firm to hard, appeared well circumscribed and showed a characteristic storiform pattern, fat entrapment at the advancing border of tumor on microscopic examination. 2 cases of MFH were reported, one in 48 years female with history of mass on anterior aspect of thigh and other case was of 49 years old male with chest wall swelling. Histology revealed, well circumscribed, hard, grey white, fleshy mass measuring 6 cm and 5 cm in diameter in first and second case respectively. On microscopic examination, a tumor composed of pleomorphic spindle cells arranged in fascicles and bundles with spindly, hyperchromatic nuclei and moderate amount of eosinophilic cytoplasm. At places bizarre tumor giant cells are seen with large areas of necrosis. IHC of both cases were advised and patient was referred to higher center. One case of MFH was seen in study of Chakrabarti et al and Narayanan et al with similar findings. Weiss and Enzinger [30] analyzed 200 cases of MFH and the most common location of tumor was lower extremities. Patient was lost in follow up hence local recurrence could not be assessed Rhabdomyosarcoma is commonly seen in children under 15 years of age. We reported a case of embryonal rhabdomyosarcoma in 8 year male patient who presented with mass over a left thigh since 2 years. Grossly mass was lobulated, grey white and cut surface of growth showed a gray white appearance with hemorrhagic and necrotic areas. One case of rhabdomyosarcoma was noted in study of Harpal et al [18], Agravat et al [20] and Chakrabarti et al [29] with similar findings.

It was noted that over all malignant tumors were rare. In our study we find 5.2% cases of malignant soft tissue tumors. Our study closely matches with study of Umarani et al [19] (5%) and Gogoi et al [17] (7.7%).

Conclusion

A through clinical examination, careful grossing of specimen, and microscopic evaluation of hematoxylin and eosin stained sections will give us an insight in soft tissue tumors. Lipomas are the most common soft tissue tumors in the present study. Soft tissue tumors are slightly common in males. Malignant soft tissue tumors are rare.

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