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Original Research Article

Pattern of Soft Tissue Tumours in GMC Jammu- A one year Histopathological Study

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Abstract: Soft tissue tumours constitute a large and heterogenous group of neoplasms. They are the mesenchymal proliferation that occurs in extraskeltal nonepithelial tissue of the body, excluding the viscera, covering of brain and lymphoreticular system. Aim- This study was conducted in histopathology section of department of Pathology of GMC Jammu to evaluate the frequency of soft tissue tumours. Analysis of 100 soft tissue tumours diagnosed over study period of1year was done retrospectively. Benign tumours were more frequently seen than malignant neoplasms. Various soft tissue tumours seen were lipomas, vascular, neural and fibrous tumours. Lipoma was the most common tumour. The incidence of both benign and malignant tumours was more common in males than females. Benign soft tissue tumours were more common than malignant soft tissue tumours with intermediate lesions being least common. Males were affected more as compared to females. Adipocytic tumours were the most common type.
Keywords: Soft tissue tumours, lipoma, benign, Malignant.

INTRODUCTION

Soft tissue tumours constitute a large and heterogenous group of neoplasms. They are the mesenchymal proliferation that occurs in extra skeletal nonepithelial tissue of the body, excluding the viscera, covering of brain and lymphoreticular system [1]. They can occur at any age. They arise everywhere in the body, the most common locations being the extremities, trunk, abdominal cavity, Head and neck region [2]. The annual incidence of benign soft tissue tumours have been reported upto 3000/million population, whereas that of malignant soft tissue tumours it has been seen around 30/ million population i.e less than 1 % of all the malignant tumours of the body. Benign soft tissue tumours are 100 times more as compared to malignant [3]. Soft tissue tumours have fascinated pathologist for many years because of wide variety of the tumours and histopathological similarities between some tumours with only subtle difference which requires careful microscopic examination thus posing a diagnostic challenge to pathologist .This study was conducted in the Pathology department of Government medical college Jammu to reveal the pattern of various soft tissue tumours.

Aim

To evaluate the spectrum of benign as well as malignant soft tissue tumours in a tertiary care hospital ,based on histopathological diagnosis using the international classification of soft tissue tumours by WHO [4].

Patient and methods

This was a retrospective study that included all histological diagnosed cases of soft tissue tumours over a period of 1year i.e from May 2016 to April 2017, in the histopathological section of department of pathology, GMC Jammu. Histology slides of cases with in the study period were reviewed and clinical details were obtained from the histopathology request forms. All the slides had been routinely stained with haematoxylin and eosin stain. No special stains were used. Tumours were classified according to WHO classification of soft tissue tumours -2002 [4].

RESULTS

During a period of 1year, total of 3300 surgical pathology specimen were received, out of these 100 were diagnosed as soft tissue tumours. Benign tumours were more than the malignant tumours. In the present study, though tumours were present in all age groups, the peak age incidence for malignant tumours were found in 6^{h}decade (4%) and benign tumours were found in the 3rd decade (38%) Table 1. The benign and malignant tumours were found more common in male (62 cases) than in females (38 cases).Male to female ratio was 1.6:1.

Most common lesion among the benign tumours was adipocytic tumours followed by vascular tumours and Nerve sheath tumours. Lipoma was the most common benign tumour accounting for 40% of all diagnosed cases. Hemangioma was the second most common benign tumour. The remaining was schwannoma, Neurofibroma, benign fibrous histiocytoma. Among the adipocytic tumours, 2 cases of angiolipoma and 4 cases of fibrolipoma were seen. Capillary hemangioma was most common type followed by cavernous hemangioma and glomus tumour among the vascular tumours. Out of 12 cases of Nerve sheath tumours, Neurofibroma cases were found to be more than Schwannoma cases.

Among the intermediate lesion one cases each of Desmoid tumour, Solitary fibrous tumour and Hemangio endothelioma were seen. Among the malignant lesion 2 cases of pleomorphic sarcoma followed by one case each of synovial sarcoma, liposarcoma, malignant peripheral nerve sheath tumour, Rhabdomyosarcoma and leiomyosarcoma were seen. The most common location of soft tissue tumours observed in our study was head and neck followed by upper limb, trunk and lower limb .For benign tumours, Head and Neck appeared to be the most common site followed by upper limb and trunk. The malignant soft tissue was found to have predilection for extremities followed by trunk.

Table 1: Age distribution of Soft tissue tumours

Age (years)	Benign	Intermediate	Malignant	Total
11-20	2	-	-	2
21-30	12	-	-	12
31-40	38	2	-	40
41-50	14	1	1	16
51-60	16	-	1	17
61-70	8	1	4	12
>70	-	-	-	-
Total	90	4	6	100

Table 2: Sex distribution of Soft tissue tumours

SEX	Male	Female	Total
Benign tumours	56	34	90
Intermediate Tumours	2	2	4
Malignant Tumours	4	2	6
Total	62	38	100

Table 3: Distribution of soft tissue tumours

TUMOURS	Benign (n)	Intermediate (n)	Malignant (n)
Adipocytic	40	-	1
Fibroblastic/Myofibroblastic tumours	9	2	-
Fibro histiocytic tumours	8	-	2
Nerve sheath tumours	12	-	1
Vascular tumours	20	1	-
Pericytic/perivascular tumours	-	-	-
Smooth muscle tumours	1	-	1
Skeletal muscle tumours	-	-	1
Tumours of uncertain differentiation	-	-	1
Total	90	3	7

Table 4: Distribution of different type of Soft tissue tumours

Benign Tumours	No.	Intermediate Tumours (n)	Malignant Tumours	No.
Adipocytic tumour		**Adipocytic tumour**	**Adipocytic tumour**	
Lipoma	34		Liposarcoma	1
Angiolipoma	2			
Fibrolipoma	4			
Fibroblastic/Myofibroblastic tumours		**Fibroblastic/Myofibroblastic tumours** Desmoid Tumour (1) Solitary Fibrous tumour (1**)**	**Fibroblastic/Myofibroblastic tumours**	
Nodular Fasciitis	9			
So called benign Fibro histiocytic tumours		**So called benign Fibro histiocytic tumours**	**So called benign Fibro histiocytic tumours**	
Benign Fibrous Histiocytoma	8		Malignant fibrous histiocytoma	2
Nerve sheath tumours		**Nerve sheath tumours**	**Nerve sheath tumours**	
Schwanoma	5		Malignant peripheral nerve sheath tumour	1
Neurofibroma	7			
Vascular tumours		**Vascular tumours**	**Vascular tumours**	
Cavernous Haemangioma	6	Haemangio endothelioma [1]		
Capillary haemangioma	13			
Glomus	1			
Smooth muscle tumours		**Smooth muscle tumours**	**Smooth muscle tumours**	
Leiomyoma	1		Leiomyosarcoma	1
Skeletal muscle tumours	-	**Skeletal muscle tumours**	**Skeletal muscle tumours**	1
Rhabdomyoma			Rhabdomyosarcoma	
Tumours of uncertain differentiation		**Tumours of uncertain differentiation**	**Tumours of uncertain differentiation** Synovial Sarcoma	1
Total	90	3		7

DISCUSSION

During the study period of 1year, total of 3300 Surgical pathology specimen were received in histopathological section of department of pathology, GMC Jammu. Out of these, 100 cases were diagnosed as soft tissue tumours. Benign tumours (90 cases) were more than the malignant tumours (7 cases), with only 3 cases of intermediate type. This was similar to study done by Batra *et al.;* [5] and Jain *et al.;* [1]. In the present study, though tumours were present in all age groups, the peak age incidence for malignant tumours were found in 6^{h}decade (4%)and benign tumours were found in the 3rd decade (38%)Table 1. This was Similar to that observed in study done by Uma rani M.K *et al.;* [6].

The benign and malignant tumours were found more common in male 62 cases than in females 38 cases. Male to female ratio was 1.6:1 which is comparable to studies done by Myrhe-Jenson O [7] and Beg S *et al.;* [8] where male female ratio were 1:1 and 1.8:1 respectively. Mandong BM *et al.;* [9] found male female ratio to be 2:1 similar to that seen in our study. Most common lesion among the benign tumours were adipocytic tumours followed by Vascular tumours, and Nerve sheath tumours which is Similar to that seen in study done by Jain *et al.;* [1]. Lipoma was the most common benign tumour accounting for 40% of all diagnosed cases followed by hemangioma .This is comparable to study done by Goyal S *et al.;* [10] and Gogi AM *et al.;* [11].

Other cases seen were that of schwannoma, Neurofibroma, benign fibrous histiocytoma. Among the adipocytic tumours, 2 cases of angiolipoma and 4 cases of fibrolipoma were seen. Capillary hemangioma was most common type followed by cavernous hemangioma and glomus tumour among the vascular tumours. Out of 12 cases of Nerve sheath tumour , Neurofibroma cases were found to be more than Schwannoma cases which is Similar to that seen by Umarani M.K *et al.;*[6]. Among the intermediate lesion one case each of Desmoid tumour, Solitary fibrous tumour and Hemangio endothelioma were seen.

Among the malignant lesion 2 cases of pleomorphic sarcoma followed by one case each of synovial sarcoma, liposarcoma, Malignant peripheral nerve sheath tumour, Rhabdomyosarcoma and leiomyosarcoma were seen. Umarani M.K *et al.;* [6] found 11 malignant cases, out of which 3 cases were liposarcoma followed by 2 cases each of rhabdomyosarcoma, Ewings Sarcoma and Synovial sarcoma. One case each of leiomyosarcoma and Gist were seen whereas Sajjad M *et al.;* [13] found rhabdomyosarcoma to be the most common malignant soft tissue tumour in his study.

The most common location of soft tissue tumours observed in our study was head and neck followed by upper limb, trunk and lower limb. For benign tumours, Head and Neck appeared to be the most common site followed by upper limb and trunk. The malignant soft tissue were found to have predilection for extremities followed by trunk Which was similar to that seen in study done by Swagata D *et al.;* [12]. Thus our study presents a comprehensive overview of overall WHO soft tissue tumour groups however some underreporting may have occurred as some soft tissue tumours may have been diagnosed outside or some patients may have received treatment without histopathological examination.

CONCLUSION

Benign soft tissue tumours were more common than malignant soft tissue tumours with intermediate lesions being least common. Males were affected more as compared to females. Adipocytic tumours were the most common type. Benign tumours predominantly involved head and neck area whereas malignant tumours were common in Extremities.

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