



A HISTOPATHOLOGICAL STUDY OF LIMB LESIONS: RETROSPECTIVE STUDY AT RIMS, RANCHI

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ABSTRACT Limb lesions of skin, soft tissue and bone are commonly encountered. They include a multitude of non neoplastic, benign and malignant diseases ranging from lipoma to fibrosarcoma and from epidermal cyst to squamous cell carcinoma. An insight of the pattern of various limb diseases in relation to site, age, and type of lesion assists in better comprehension of differential diagnosis for histopathologists. **Material & Methods:** A retrospective study of histopathologically diagnosed cases of 47 limb lesion patients from June 2020 to May 2021 was undertaken. **Results:** A total 47 cases included 28 male and 19 female, 55% of cases belong to age group 21 to 50 years. 13 (28%) cases were of upper extremity and 34 (72%) from lower extremity. 15 (34%) cases were non-neoplastic, 13 (28%) were benign lesion and rest 19 (38%) were malignant lesions. **Conclusion:** Lower limb lesions are more common than upper limb lesions. Squamous cell carcinoma is the most common malignant neoplasm and lipoma is the most common benign disease of extremity. Pyogenic granuloma and epidermal cyst were found to be the most common non-neoplastic extremity lesions. Fibrosarcoma was the most common type of sarcoma observed in 9% cases. Chronic osteomyelitis was the most common bony lesion.

KEYWORDS : limb lesions, squamous cell carcinoma, fibrosarcoma, lipoma

INTRODUCTION

Excised specimen from upper and lower extremity for the definitive diagnosis of various neoplastic and non-neoplastic diseases are very common in histopathology. Limbs are a common site for ultraviolet radiation induced squamous cell carcinoma nonetheless soft tissue tumors including sarcomas.¹ Lipoma is the commonest soft tissue tumor of the body and occur in almost any organ.² Benign lesions like lipoma and epidermal cysts are commonly encountered in limbs, as well as the non neoplastic conditions like pyogenic granuloma and chronic osteomyelitis.³ Limb lesions can be classified artificially into skin lesions, soft tissue lesions and bony lesions.

MATERIAL AND METHODS:

It was a retrospective record-based study, performed in the Department of Pathology, RIMS, Ranchi. Study Population included all patients whose surgically excised specimen from limb and shoulder was sent to the department of pathology from June 2020 to May 2021. By using universal sampling method 47 patients were included in the study. Surgically excised mass as well as incisional biopsy specimen were transferred to a jar containing 10% formaldehyde. Histopathological examination of all the specimens was done by routine paraffin wax sections and was stained by Haematoxylin and Eosin (H&E). The epidemiological data in terms of age, type and site of specimen and histopathological findings were compared.

RESULT AND DISCUSSION:

Our present study of 47 cases included 28 males (60%) and 19 females (40%). The specimen from upper limb including shoulder were 13 (28%) and that from lower limbs were 34 (72%) and consisted of 18 skin lesions, 12 soft tissue lesions and 17 bony lesions.

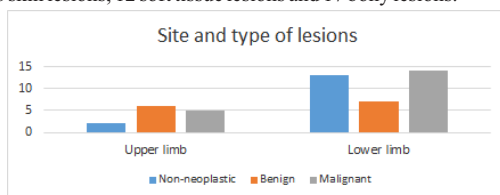


Table – 1 Age-wise Incidence

Age group (years)	Number of cases
0-10	1
11-20	10
21-30	6

Age group (years)	Number of cases
31-40	8
41-50	12
51-60	4
>60	11

Mean age of cases was 42 years. 55% of cases belong to age group 21 to 50 years. Youngest patient in our study was 10 years old whereas oldest patient was 97 years old. Mean and median age for malignant lesions as found to be 50 and 49 years respectively.

Table – 2 Disease-wise Distribution Of Cases

Diagnosis	Upper Limb	Lower Limb	Number of cases
Squamous cell carcinoma	3	7	10
Chronic osteomyelitis	0	5	5
Lipoma	4	1	5
Pyogenic granuloma	0	3	3
Epidermal cyst	1	2	3
Giant cell tumor	2	1	3
Fibrosarcoma	2	2	4
Rhabdomyosarcoma	0	2	2
Schwannoma	0	2	2
Chondrosarcoma	0	1	1
Osteochondroma	0	1	1
Ewing Sarcoma	0	1	1
Undifferentiated Pleomorphic Sarcoma	0	1	1
Miscellaneous	1	5	6

Out of 47 cases, 16 (34%) cases were non-neoplastic, 13 (28%) were benign lesion and rest 18 (38%) were malignant lesions.

Squamous cell carcinoma was the most common diagnosis overall amounting for 21% cases, 7 cases in lower limbs and 3 cases from upper limb. Furthermore 7 cases were seen in age group 21-50 years and rest 3 in >50 years age group. 7 out of 10 were well differentiated and 3 were moderately differentiated. Males comprised 80% cases of SCC. It was followed by chronic osteomyelitis and lipoma 11% of cases each. Lipoma was found most commonly in shoulder in 4 out of 5 cases and 3 out of 5 were found in age group 21-50 years. Mayhre Jensen also found in their study that lipomas are uncommon in children and most commonly involve trunk, shoulder, upper arm and neck.⁴ All 5 cases of chronic osteomyelitis were seen in lower limb. 3 out of 5 were seen in >50 years and rest 2 in <20 years age group. Both cases of

Rhabdomyosarcoma was found in lower limbs in young adults (18 years and 26 years). 2 cases of GCT was seen in upper limbs and 1 in lower limbs, all seen in age >20 years. Nahra ME, Bucchieri JS showed in their study that GCTs are usually seen in middle-aged or older patients.⁵ Fibrosarcoma was equally found in upper and lower limbs, 2 cases each, all seen in age >20 years. According to The peak for the adult-type fibrosarcoma is between 30 and 60 years of age.⁶ Ewing sarcoma was found to occur in lower limbs only.

Among 18 cases of malignant tumors incidence of squamous cell carcinoma was highest (21%) followed by fibrosarcoma (11%) and rhabdomyosarcoma (4%). Among 13 benign cases, Lipoma and Giant cell tumor accounted for 10% and 6% respectively. Also non-neoplastic conditions like pyogenic granuloma and epidermal cyst account for 6% of all cases.

Table – 3 Site-wise Distribution Of Cases

Disease	Number of cases
Thigh	6
Femur	5
Foot	5
Shoulder	5
Ankle	4
Forearm	4
Leg	4
Knee	3
Hip	2
Tibia	2
Popliteal Fossa	2
Humerus	1
Miscellaneous	4

Among 17 bony lesions chronic osteomyelitis (29%) was the most common lesion detected followed by Giant cell tumor (18%). Out of 5 cases of chronic osteomyelitis, femur was involved in 3 cases and tibia in 2 cases. Tibia (34%) and femur (33%) were the most frequent foci of the COM in a study conducted by Zuluaga AF et al.⁷

CONCLUSIONS:

We can infer that 55% of cases belong to age group 21 to 50 years. Lower limb lesions are more common than upper limb lesions. Squamous cell carcinoma is the most common malignant neoplasm and lipoma is the most common benign disease of extremity. Pyogenic granuloma and epidermal cyst were found to be the most common non-neoplastic extremity lesions. Fibrosarcoma was the most common type of sarcoma observed in 9% cases. Chronic osteomyelitis was the most common bony lesion of extremity that too more common in lower limbs. Overall diseases pertaining to surgical intervention in our hospital most commonly (55%) involved the 21-50 age group.

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