



A study of spectrum of Adipose Tissue Tumours in a Tertiary Care Centre

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Abstract

Introduction: *The most common soft – tissue tumours in clinical practice are fat - containing adipose tissue tumours. We have made an effort to evaluate the pattern of distribution of adipose tissue tumours with respect to age, sex, anatomical site and the frequency of benign, intermediate and malignant tumours.*

Materials and Methods: *All cases of adipose tissue tumours received in Department of Pathology in our Tertiary care hospital from August 2014 to July 2018 were retrieved and reviewed.*

Results: *A total of 152 cases of adipose tissue tumours were studied during the 4 year interval. Of these, majority were benign adipocytic tumours (96.5%) as compared to malignant ones. Adipose tissue tumours are more common in females (52.63%) and upper limbs are the most common site involved.*

Conclusion: *This study contributes to the epidemiologic knowledge of the adipose tissue tumours.*

Keywords: *Adipose tissue tumours, lipoma, liposarcoma, fibrolipoma, soft-tissue tumours.*

Introduction

Soft – tissue tumours are a diverse group of neoplasms with differentiation towards mesenchymal tissue. Adipocytic tumours represent the largest single group of these mesenchymal soft-tissue tumours.^{1,2,3} Adipose tissue is the connective tissue in which fat is stored and has cells distended by deposits of fat. Adipose tissue tumours arise from the adipocytes which occur in the extra-skeletal non-epithelial tissues of the body, excluding the coverings of the brain, viscera and the lymphoreticular system. Adipose tissue tumours are the commonest soft tissue tumours.^{4,5} Although pathologically diverse, they frequently exhibit similar clinical features and radiological characteristics. In medical practice and literature, though not given much importance, they pose cosmetic problems. The

size of the tumour and its location determines the symptoms which range from dyspnea to a feeling of fullness and discomfort in motion.

Material and Methods

A total of 152 histopathological slides previously diagnosed as adipose tissue tumours were retrieved and reviewed and previous diagnoses were confirmed. Fresh sections were cut, routine hematoxylin eosin stains and special stains for fat were done as and when required. The age of the patient, gender and tumour location were extracted from the request forms and specimen registers. The subtyping of adipose tissue tumours into benign, intermediate and malignant tumours was done according to the latest WHO classification of Soft tissue tumors – 2013.²

Result

We retrieved 152cases of adipose tissue tumours which constituted 1.88% of the total histopathological specimens during the study period. Out of 152 cases, 80cases were females (52.63%) and 72cases were males (47.37%). Age of the patients ranged from 8years to 83years. The most common age group involved was 31-40 years followed by 41-50years and 51-60 years.

[Table 1]

Table 1: Age-wise distribution of Adipose tissue tumours

Age	Number of cases	Percentage
0-10	04	2.63%
11-20	14	9.21%
21-30	19	12.51%
31-40	38	25%
41-50	27	17.76%
51-60	24	15.79%
61-70	11	7.23%
71-80	13	8.55%
81-90	02	1.31%

The different sites involved in decreasing frequency are extremities (46.05%- upper and lower limbs), back, anterior abdominal wall (trunk), chest wall, head and neck region and abdominal cavity (Gastro intestinal tract). [Table 2] Painless mass was the most common presenting symptom (90.7%) followed by lump with pain (9.3%).

Table 2: Site wise distribution of Adipose Tissue Tumours

Site involved	Number of cases (%)
Upper limbs	47(30.92%)
lower limbs	23(15.13%)
Back	38(25%)
Anterior abdominal wall	23(15.13%)
Chest wall	11(7.23%)
Head and neck	09(5.92%)
Abdominal cavity	01(0.65%)

Lipoma is the most common adipose tissue tumour. [Table 3] The most common benign adipose tissue tumour is lipoma. The most common variant of lipoma in our study is Fibrolipoma.

Table 3: Distribution of Adipose Tissue tumours

Benign (96.06%)	
Lipoma	124(81.57%)
Lipomatosis	3(1.97%)
Angiolipoma	7(4.6%)

Myolipoma	2(1.32%)
Fibrolipoma	8(5.26%)
Hibernoma	2(1.32%)
Intermediate (0.65%)	
Well- differentiated Liposarcoma	1(0.65%)
Malignant (3.29%)	
Dedifferentiated Liposarcoma	1(0.65%)
Myxoid Liposarcoma	2(1.32%)
Pleomorphic Liposarcoma	2(1.32%)

Among 5 malignant cases, most of them involved age group above 60 years of age. In 98% cases of adipose tissue tumours, clinical diagnoses were concordant with final histopathological diagnosis.

Discussion

In our study, the most common age group involved was 31-40 years and females were more commonly involved which is similar to studies by Thaker MV et al, Fubara DS et al and Mohammad U et al.^{1,6,7} The most common site involved was upper limbs which is comparable with Fubara DS et al whereas Trunk was the most common site involved in a study by Thaker MV et al and Mohammad U et al.^{6,1,7} In our study, trunk is the second most common site involved.

In the present study, out of 152 cases of adipose tissue tumours, 96.06% were benign, 0.65% were intermediate and 3.29% were malignant adipocytic tumours. [Table 4]

Table 4: Comparison of Benign and Malignant adipose tissue tumours with other studies^{1,6,7,8,9,10,11}

Studies	Benign	Malignant
Thaker MV et al	96.55%	3.45%
Fubara DS et al	95.6%	4.4%
Mohammad U et al	98%	2%
Harpal S et al	96.7%	3.3%
Jabanputra GP et al	95%	5%
Baig MA et al	94.5%	5.5%
Chakrabarti PR et al	98%	2%
Present study	96.06%	3.29%

The incidence of benign and malignant adipose tissue tumours in our study is comparable and similar to most of the other studies. Lipoma is the most common adipose tissue tumour in all similar studies.

Conclusion

Benign adipose tissue tumours outnumbered malignant tumours by a ratio of 29:1. Lipomas are

the most common benign tumours occurring most commonly on extremities. Upper limb is the most commonly involved site. Fibrolipoma is the most common variant of Lipoma. Though painless mass is the most common presenting symptom, early diagnosis and appropriate management is important especially with malignant adipocytic tumours.

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