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ORIGINAL RESEARCH

Lipoma-The Universal Tumor: A Demographic Study From Central India

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Abstract

Background: Lipomas can be defined as encapsulated benign adipocytic tumors. They usually range in size from 1 – 10 cms. Hence, lipomas larger than 10 cms are referred as Giant lipomas. Todetermine the clinical variables like age, size, site of the patients we performed a retrospective observational study.

Materials and method: This was a Retrospective observational study which included patients who underwent Lipoma excision in 2018 and 2019. Age, sex, tumor size (maximum diameter in cms) and site were noted. Classification of cases was done based on location, size, site and compared with the existing literature.

Results: A total of 108 patients underwent surgical excision of lipoma during the study period. The study population was contributed by 72 males and 36 females. The mean age of the study population was 42.30 SD 14.79, with the mean age of 43.70 SD 15.69 for males and 39.50 SD12.52 for females. Large and Giant lipomas were found in 25.92% and 8.33% cases.

Conclusion: Large sized lipomas were more in our study in comparison to literature and solitary lipomas were commoner in males,late presentation to the hospital and hesitancy to seek medical care/undergo excision being most probable reason.

Keywords: Lipoma, Surgical, Tumor

Background

Lipomas can be defined as encapsulatedbenign adipocytic tumors.[1] They are mesenchymal tumour and can be seen anywhere in the body where fat cells are present.[2] Lipomas are enclosed in a fibrous capsule.[3] Although they are generally seen in the subcutaneous plane, they may also involve the fascia and deeper muscular planes.[4] They are soft in consistency, doughy and generally painless.[3] The precise cause of Lipoma is unknown. However, the potential link between trauma and lipoma formation has been explained in literature by many.[5]They usually range in size from 1 – 10 cms.[6] Hence, lipomas larger than 10 cms are referred to as Giant lipomas.[7]

The use of Anti- retroviral drugs like Protease inhibitors has caused formation of lipomas and lipodystrophy in many patients.[8] Owing to its ubiquitous presence anywhere in the body lipoma is also known as 'Universal tumor".[9]The treatment generally involves surgical excision which can be safely done under local anaesthesia.[3] Todetermine the clinical variables like age, size, site of the patients presenting to a tertiary care centre in Central India we performed a retrospective observational study of patients with Lipomas.

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Materials and method

This was a Retrospective observational study conducted at L.N. Medical college and J.K Hospital, Bhopal by collecting data of patients with Lipoma. The cases included were those patients who underwent Lipoma excision in 2018 and 2019. Age, sex, tumor size(maximum diameter in cms) and site were noted. Classification of cases was done based on location, size, site and compared with the existing literature.

Inclusion Criteria

- All patients diagnosed with Solitarylipoma who underwent surgical excision.

Exclusion Criteria

- Patients with Multiple lipomata.

Statistical analysis was done in terms of percentages and mean with standard deviation.

Results

A total of 108 patients underwent surgical excision of lipomaduring the study period. The study population was contributed by 72 males and 36 females, resulting in a Male: Female ratio of 2:1.The mean age of the study population was 42.30SD 14.79, with the mean age of 43.70SD 15.69 for males and 39.50SD12.52 for females. The age rangedfrom 7 to 81 years. Maximum number of cases were in 4^{th} decade of life followed by 5^{th} decade which contributed 28.70% and 22.22% of the sample size respectively. [Table 2] The most common site noticed in our study was the back which accounted for 26.85% of total cases. [Table 3] 73.14% patients underwent excision on OPD basis. [Table 1] In our study, lipomas ranged in diameter from 1 cm to 13 cms. Mean size 4.18 cms of the six most common locations. These six locations constituted 80 out of 108 patients. Mean size of all 108 lipomas was 3.92 cms. [Table 4]

Year On Year Comparison [Table 1]

	Total (%)	**2018 (%)**	**2019 (%)**
Total	108 (100)	45 (100)	63 (100)
OPD	79 (73.14)	32 (71.11)	47 (74.60)
IPD	29 (26.85)	13 (28.88)	16 (25.39)

Classification Based On Age [Table 2]

Age group	**Total number of cases (%)**	**Males (%)**	**Females (%)**
0-10	3 (2.77)	3 (4.16)	0 (0)
11-20	4 (3.70)	3 (4.16)	1 (2.77)
21-30	16 (14.81)	9 (12.5)	7 (19.44)
31-40	31 (28.70)	17 (23.61)	14 (38.88)
41-50	24 (22.22)	16 (22.22)	8 (22.22)
51-60	18 (16.66)	14 (19.44)	4 (11.11)
61-70	4 (3.70)	4 (5.55)	0 (0)
71-80	7 (6.48)	5 (6.94)	2 (5.55)
81-90	1 (0.92)	1 (1.38)	0 (0)

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Classification Based On Location [Table 3]

Location	Total cases (%)	Average size (cms)
Back	29(26.85)	5.14
Others	28 (25.92)	3.21
Arm	16(14.81)	3.53
Occipital region	11(10.18)	3.59
Nape of neck	10 (9.25)	3.20
Shoulder	7 (6.48)	2.93
Abdomen	7 (6.48)	5.35

Others- Axilla (5), Knee (5), Elbow (4), Gluteal region (4), Chest (3), Thigh (2), Hand (2) Leg (2), Forehead (1)

Classification Based On Size [Table 4]

Size	Number (%)	Male (%)	Female (%)
Less than 5 cms	71 (65.74)	49 (68.05)	22 (61.11)
5- 10 cms	28 (25.92)	18 (25.00)	10 (27.77)
More than 10 cms	9 (8.33)	5 (6.94)	4 (11.11)

Discussion

The prevalence of lipoma has been cited to be 1% of the population while the incidence as 2.1 every 1000 individuals per year.[5]

A study conducted by Solvonuk et al. and others found Male to female ratio as 1.2:1 for solitary lipomas while in our study the ratio was 2:1.[10]As per literature,solitary lipomas are more commonly seen in women, while multiple lipomas are commoner in men.[11] However, in our study solitary lipomas are commoner in men, the probable cause for the same can be hesitation to seek medical attention/undergo surgical excision among females in a third world nation.Similar to Rydholm et al. in our study the mean age was 43.70 SD 15.69 for males and 39.50SD 12.52 for females, in comparison to 46 years for males and 49 years for females.[12]Patients with multiple lipomas were not included in our study. As per the existing literature, lipoma is most commonly seen in 4^{th} and 5^{th} decade and the results of our study have consistent findings with 28.70 % study population contributed by the individuals in 4^{th} decade of life followed by 22.22% by those in 5^{th} decade.[12] [Table 2]Although the age of onset for lipomas varies, certain type of lipomas are frequently seen in a particular age group, like hibernomas are seen commonly around the age of 30, lipoblastomas and diffuse lipomatosis seen in children older than 3 years of age.[5] There were only 6 cases of lipoma in the first two decades of life in our study, 2 in the first decade and 4 in the second decade which is again similar to Rydholm et al. who described lipomas to be uncommon in children.[12][Table 2]

Similar to the study conducted by Kolb et al.the most common site observed in our study was the Back. [6]14.81% cases were located in the arm whereas the back accounted for 26.85% cases. Likewise,Rydholm et al. in his study found 15% and 18% cases contributing to the locations of arm and back respectively.[12] Also, Hansson et al. [13] summarized several descriptions showing arm and trunk as the most common body parts with lipomas. Similarly, back, abdomen and arm contributed 52 out of 108 cases i.e. 48.14 % of the total cases in our study. [Table 3]

In his study Rydholm et al. found four fifth i.e. almost 80% sample size had lipoma of size less than 5 cms, 20 % cases constituted of size more than 5 cms and a mean size of 3.9 cms whereas in our study 65.74% patients had lipomas less than 5 cms and those more than 5cms

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accounted for 25.92% of total cases. The mean size of our study population was 3.92 cms.[12]The probable cause for more cases of Larger sized lipomas in our study can be late presentation to the hospital in general in the Indian population.Lipomas equal to or more than 5 cms are considered as Large Lipomas.[14][Table 4]

Surgical excision of lipoma often provides a cure and can be easily done under local anaesthesia using a field block, using 1 or 2% Lidocaine with Epinephrine. Local anaesthesia is administered in the sub-cutaneous plane surrounding the operative field in a field block.[3] All cases of Lipoma less than 5 cms both OPD and IPD patients, all OPD cases of large lipomas excluding giant lipomas underwent excision under local anaesthesia. Use of tumescent anaesthesia for excision of large lipomas has been promoted and considered safe in outpatient setting.[15][Table 1,4]

The patients of Liposarcoma were excluded from our study, the probable reason for this maybe due to better imaging characteristics demonstrating hypervascularity, areas of necrosis or cystic change, predominant signal intensity of fat, thick septations, calcification, metaplastic ossification and areas of focal nodularity which help in differentiating lipoma from Liposarcoma.[1,16] Also, clinical suspicion of liposarcoma increases when a tumor is more than 5 cms in size, deep seated or located in the thigh region.[12] As patients with liposarcoma were diagnosed earlier they did not form a part of the sample of patients included in this study.

Fibrolipoma, a microscopic variant of lipoma is characterised by intermixed fibrous tissue with lobules of fat cells.It is an uncommon histological variant of lipoma frequently involving the buccal mucosa and buccal vestibule. [17] Lipomas are uncommon in the oral cavity comprising 1 to 4 % of all cases.[18] In our study, the incidence of fibrolipoma was observed to be 5.55 % with 6 cases. 4 out of the 6 cases were clinically diagnosed with oral lipomas.

Conclusion

Large sized lipomas were more in our study in comparison to literature and solitary lipomas were commoner in males, late presentation to the hospital and hesitancy to seek medical care/undergo excision being most probable reason.

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