Original Article

Indian Journal of Public Health Research & Development
Volume 13 Issue 3 July-September 2022
DOI: http://dx.doi.org/xxxxx/ijphrd.xxxx.13221.1

Recurrence Rate after Marginal Excision of Lipomas

Ramesh Chhaganbhai Badhiya[1], R. M Jitia[2], Haresh B. Vala[3]

[1-3]Assistant Professor, Department of Surgery, Shantabaa Medical College & General Hospital Amreli, Gujarat

How to cite this article: Ramesh Chhaganbhai Badhiya, R. M Jitia, Haresh B. Vala et al. Recurrence Rate after Marginal Excision of Lipomas. Volume 13 Issue 3 July-September 2022

Abstract

Background and Aim: Lipoma is a benign tumor composed of mature adipocytes. This study was performed on patients with histologically diagnosed and confirmed lipomas to evaluate clinical outcome after marginal excision of the tumors and to determine whether local recurrence had any correlation with patient age and sex, or tumor size and location.

Materials & Methods: The present is the retrospective analysis that examined the 100 patients diagnosed with lipomas. The tumor in all the patients was found to be deeply seated and ultrasounded guided biopsy was performed preoperatively. The margins of soft tissue resections of the tumor specimens were defined as (1) intralesional, (2) marginal and (3) wide. The margins were marginal in all cases; none of the patients had any treatment other than surgery.

Results: It was found that Lipomas had an equal predilection for upper and lower extremities. The results of the study showed that none of the patients had any local recurrence. No patient had experienced metastasis at the time of this study. Local recurrence did not correlate with patient age or sex for patients with lipomas, neither with size or location of the tumors.

Conclusion: The present study shows that histological analysis provides for accurate diagnosis of lipomas. The recurrences rate in the patients with tumor was not found in any of the above patients where marginal excision was planned. There was no relationship seen in patient age, sex, sie and location of the tumor. However to overcome the limitation of the study, the long term follow up is recommended for the further studies.

Keywords: Lipoma, Excision, Recurrence, Metastasis

Introduction

Lipoma is a benign tumor composed of mature adipocytes. The tumor often presents as a painless soft tissue mass occurring with a peak incidence at age 40–60 years. Although most lipomas originate from subcutaneous fat, some are located under the fascia and are called deepseated lipomas. Lipomas are the most common soft-tissue tumor.[1] These slow-growing, benign fatty tumors form soft, lobulated masses enclosed by a thin, fibrous capsule. Although it has been hypothesized that lipomas may rarely undergo sarcomatous change, this event has never been convincingly documented. It is more probable that lipomas are at the benign end of the spectrum of tumors, which, at the malignant end, include liposarcomas.[2, 3]

Well into the 1970s, the term "well-differentiated liposarcomas" was used to describe a class of adipocytic soft tissue tumours with local aggressive behavior but typically without metastatic spread.

Corresponding Author : Ramesh Chhaganbhai Badhiya
Shantabaa Medical College & General Hospital Amreli, Gujarat
Email address: researchguide86@gmail.com
Mobile number: 9427350988

Based on this particular behavior, they have been renamed as "atypical lipomatous tumours (ALT)" or "atypical lipomas".[4, 5] ALTs are with a frequency of 40–45% the most common adipocytic tumours, often seen after the fifth decade of life with a slight male predominance. Growing slowly this may result in comparatively large tumours. Lipomas usually present as solitary, slowgrowing, and painless tumors in the trunk or extremities in adults. Lipomas usually are well-circumscribed, lobulated lesions composed of adipose tissue often separated from surrounding adipose tissue by a thin fibrous capsule.[6]

Lipomatous tumors represent the most common soft tissue tumors. The biological spectrum ranges from benign lipomas to high-grade liposarcomas of variable histology. The fact that well-differentiated liposarcomas (WDL) show no potential for metastasis unless they undergo dedifferentiation led to the introduction of terms such as atypical lipoma, particularly for lesions arising at surgically amenable locations in the limbs and on the trunk because at these sites, wide excision usually is curative and hence the designation "sarcoma" is not warranted.[7, 8] Therefore, to address these conflicting reports, this study was performed on patients with Histologically diagnosed and confirmed lipomas to evaluate clinical outcome after marginal excision of the tumors and to determine whether local recurrence had any correlation with patient age and sex, or tumor size and location.

Materials & Methods

The present is the retrospective analysis that examined the 100 patients diagnosed with lipomas and treated at the medical institute and associated hospital. The included patients were informed about the study and the informed consent was obtained prior to the inclusion in the study. There were 60 males and 40 females. The age ranges of the patients included in the study were from 30 – 75 years, with mean age to be around 54 years. The study procedure was informed to the ethical committee and the ethical clearance certificate was obtained prior to the start of the study. None of the patients were lost on follow up.

The tumor in all the patients was found to be deeply seated and ultrasounded guided biopsy was performed preoperatively. The margins of soft tissue resections of the tumor specimens were defined as (1) intralesional, (2) marginal and (3) wide. The margins were marginal in all cases; none of the patients had any treatment other than surgery.

In respect to the local recurrence and the metastasis the outcome of the patient was evaluated. The study was aim further to check any relation with age, sex, size and location of tumor. Statistical analysis was performed using chi-square test. The t test was used to evaluate the relationship of tumor lipoma with patient age and tumor size, and the relationship of local recurrence with patient age and tumor size. The chi-square test was used to evaluate the relationship of the type of tumor Lipoma with patient sex, tumor location, and local recurrence, and the relationship of local recurrence with patient sex and tumor location. Analyses were performed using SPSS software for Windows version 22.0

Result

The present study was performed on patients with histologically diagnosed lipomas to evaluate clinical outcome after marginal excision of the tumors and to determine whether local recurrence had any correlation with patient age and sex, or tumor size and location. The present study consist of 100 patients who were diagnosed with lipomas were included in the study. Of the total included patients in the study there were 60 men and 40 women. The sex related difference was not found to be statistically significant. Mean age of patients with lipomas was found to be 53 years. The age range was found to be from 30 to 75 years.

In general the mean maximum diameter of lipomas was analysed to be 11.5 cm. It was found that Lipomas had an equal predilection for upper and lower extremities. The results of the study showed that none of the patients had any local recurrence. No patient had experienced metastasis at the time of this study. Local recurrence did not correlate with patient age or sex for patients with lipomas, neither with size or location of the tumors.

Discussion

The present study design is retrospective with its inherent limitations. However, well controlled retrospective studies are useful to evaluate a treatment approach. In this study, all of the patients had preoperative biopsy followed by marginal surgical resection and postoperative histologic

analysis of their tumors. For the purpose of the study, the histology of the tissue specimens was reviewed again and a consensus with postoperative histologic analysis was confirmed. Therefore, in this setting, the current authors believe the analysis and results are valid.

Second, the length of follow-up of the study is relatively short. To obtain useful results, all patients with deep-seated lipomas of the extremities with a minimum follow-up of 12 months and complete imaging and histological data were included in the study. However, given the relatively short follow-up, the results should be regarded with caution as it is possible that the results of this series underestimates the true rate of local recurrence of Lipomas, which likely will increase over time.

Patients may choose to ignore symptoms of recurrence after the follow-up period. Although this may be the case for a proportion of patients in the lipoma group these latter patients were informed of having had removed a mild form of cancer, so any signs of recurrence would most likely guide them to contact the hospital.[9, 10]

The differential diagnosis of lipomas can be problematic because of overlapping demographic, imaging, and histologic features. Increased patient age, tumor size, and deep location have been suggested as indicators of lipomas. Lipomas often show thin areas of linear enhancement.[7] Only 2 previous studies evaluated the outcome of patients with cytogenetically confirmed Lipomas. Using immunohistochemistry, reverse transcriptase polymerase chain reaction, or FISH, lipomas are characterized by rearrangements of the chromatin remodeling gene HMGA2 on chromosome 12q15. The current authors concur with these reports and recommend molecular cytogenetic analysis for the differential diagnosis of lipomas to obtain a tissue diagnosis before surgical intervention.[11]

However, it is possible that the true recurrence rate of lipoma may be lower and that these studies likely misclassified many patients as having lipomas. The optimal treatment and follow-up protocol for lipomas has been unclear. Although marginal excision has been a standard practice for lipomas, is controversial, some surgeons suggest a marginal excision whereas others recommend a wide resection. Kooby et al reported a higher risk of local recurrence after marginal excision of Lipoma.[12-14]

In contrast, Sommerville et al[15] reported a local recurrence rate of 8% after marginal excision of lipoma, and Bassett et al[16] also recommended a marginal excision for lipoma because of a low risk for local recurrence. However, these studies are limited by the lack of molecular analysis for accurate diagnosis of lipomatous tumors. In the current study, the authors acknowledge that obtaining a tissue diagnosis before surgical intervention is ideal. Although histology remains the cornerstone for the diagnosis of lipomatous tumors, complementary molecular cytogenetic analysis enhances the results obtained with histologic analysis, aiming to diagnose a lipoma correctly before surgery to predict the outcome and risk of local recurrence of deep-seated lipomatous tumors. In addition, conservative surgery is preferable for lipomas. Although a marginal surgical dissection extends into or through the reactive zone of the tumor that possibly is microscopically positive, the current authors perform marginal excision because of the benign and low-grade malignant behaviour of the respective tumors, and the awareness that a wide resection is associated with increased morbidity compared with re-excision of an eventual local recurrence.

Conclusions

The present study shows that histological analysis provides for accurate diagnosis of lipomas. The recurrences rate in the patients with tumor was not found in any of the above patients where marginal excision was planned. There was no relationship seen in patient age, sex, sie and location of the tumor. However to overcome the limitation of the study, the long term follow up is recommended for the further studies.

References

1. Charifa A, Azmat CE, Badri T: Lipoma pathology. 2018.
2. Patel S, Metgud R: Estimation of salivary lactate dehydrogenase in oral leukoplakia and oral squamous cell carcinoma: a biochemical study. Journal of cancer research and therapeutics 2015, 11:119.
3. Metgud R, Khajuria N, Patel S, Lerra S: Nuclear anomalies in exfoliated buccal epithelial cells of petrol station attendants in Udaipur, Rajasthan. Journal of cancer research and therapeutics 2015, 11:868.
4. Rauh J, Klein A, Baur-Melnyk A, Knösel T, Lindner L, Roeder F, Jansson V, Dürr HR: The role of surgical margins

in atypical Lipomatous Tumours of the extremities. BMC Musculoskeletal Disorders 2018, 19:1-7.

5. Skubitz KM, D'Adamo DR: Sarcoma. Mayo Clinic Proceedings: Elsevier, 2007. pp. 1409-32.
6. Gupta P, Potti TA, Wuertzer SD, Lenchik L, Pacholke DA: Spectrum of fat-containing soft-tissue masses at MR imaging: the common, the uncommon, the characteristic, and the sometimes confusing. Radiographics 2016, 36:753-66.
7. Errani C, Cocchi S, Ali N, Chehrassan M, Righi A, Gambarotti M, Mavrogenis AF, Vanel D, Donati D: Recurrence after marginal excision for atypical lipomatous tumors versus lipomas of the extremities. Orthopedics 2016, 39:e610-e4.
8. Metgud R, Naik S, Patel S: Spindle cell lesions: A review on immunohistochemical markers. Journal of Cancer Research and Therapeutics 2017, 13:412.
9. Presman B, Jauffred SF, Kornø MR, Petersen MM: Low recurrence rate and risk of distant metastases following marginal surgery of intramuscular lipoma and atypical lipomatous tumors of the extremities and trunk wall. Medical Principles and Practice 2020, 29:203-10.
10. Campanacci M: Bone and soft tissue tumors: clinical features, imaging, pathology and treatment: Springer Science & Business Media, 2013.
11. Peterson JJ, Kransdorf MJ, Bancroft LW, O'connor MI: Malignant fatty tumors: classification, clinical course, imaging appearance and treatment. Skeletal radiology 2003, 32:493-503.
12. McTighe S, Chernev I: Intramuscular lipoma: a review of the literature. Orthopedic reviews 2014, 6.
13. Stojanov IJ, Mariño-Enriquez A, Bahri N, Jo VY, Woo S-B: Lipomas of the oral cavity: utility of MDM2 and CDK4 in avoiding overdiagnosis as atypical lipomatous tumor. Head and Neck Pathology 2019, 13:169-76.
14. Kooby DA, Antonescu CR, Brennan MF, Singer S: Atypical lipomatous tumor/well-differentiated liposarcoma of the extremity and trunk wall: importance of histological subtype with treatment recommendations. Annals of surgical oncology 2004, 11:78-84.
15. Sommerville SM, Patton JT, Luscombe JC, Mangham DC, Grimer RJ: Clinical outcomes of deep atypical lipomas (well-differentiated lipoma-like liposarcomas) of the extremities. ANZ journal of surgery 2005, 75:803-6.
16. Bassett MD, Schuetze SM, Disteche C, Norwood TH, Swisshelm K, Chen X, Bruckner J, Conrad III EU, Rubin BP: Deep-seated, well differentiated lipomatous tumors of the chest wall and extremities: The role of cytogenetics in classification and prognostication. Cancer 2005, 103:409-16.