

# From Cosmetic Concern to Surgical Challenge: Extensive Multiple Lipomatosis - A Case Report

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## ABSTRACT

**Background:** Lipomas are the most common benign soft-tissue tumours and are composed of mature adipocytes. While solitary lipomas are frequently encountered in surgical practice, multiple lipomatosis is an uncommon condition characterized by the occurrence of numerous lipomas distributed over different parts of the body. Extensive multiple lipomatosis may result in cosmetic deformity and present unique surgical challenges.

**Case Presentation:** A 34-year-old male presented with multiple painless swellings over the abdomen and both upper and lower limbs since the age of 10 years. The swellings gradually increased in both size and number over a period of approximately 24 years. There was no history of trauma, previous surgical intervention, or similar complaints among family members. Ultrasonography was suggestive of multiple lipomas. Clinical examination revealed approximately 80–90 soft, mobile, non-tender subcutaneous swellings, with the largest measuring 9 x5 cm. Owing to cosmetic concerns, surgical excision was planned. Under general anaesthesia, a total of 82 lipomas were excised from the abdomen and extremities during a single operative

session. Histopathological examination demonstrated mature adipocytes arranged in lobules separated by thin fibrovascular septae, confirming the diagnosis of benign lipoma. The postoperative period was uneventful, and no recurrence was observed during one-month follow-up.

**Conclusion:** Extensive multiple lipomatosis is a rare benign condition that can lead to considerable cosmetic and psychological burden. Complete surgical excision remains the treatment of choice and can provide excellent cosmetic and functional outcomes. This case highlights the feasibility of excising a large number of lipomas in a single operative setting with satisfactory results.

**Keywords:** Multiple lipomatosis, Multiple lipomas, Lipoma, Benign adipocytic tumour, Surgical excision, Case report

## INTRODUCTION

Among soft tissue tumours, lipoma ranks as the most prevalent benign neoplasm of adipocytic origin. Clinically, it manifests as a slowly growing, non-tender, freely mobile subcutaneous mass and constitutes a routine presentation in general surgical outpatient departments. Peak incidence is noted in individuals between the fourth and sixth

decades of life. While most lipomas arise as solitary lesions, a proportion of patients develop multiple lipomas, which may occur in the context of various inherited or non-inherited systemic conditions.<sup>2,3,6</sup>

Multiple lipomatosis is an uncommon condition defined by the simultaneous occurrence of numerous encapsulated adipocytic lesions across the trunk and limbs. Its true prevalence is difficult to ascertain, as a considerable number of affected individuals remain asymptomatic and do not present for medical evaluation. Despite its benign histological nature, widespread involvement can lead to notable cosmetic disfigurement, psychological distress, and impairment of quality of life.<sup>1,3</sup>

The precise pathophysiology underlying the development of multiple lipomatosis is yet to be fully elucidated. Proposed mechanisms encompass hereditary genetic mutations, defects in mitochondrial function, impaired regulation of adipocyte proliferation and differentiation, and disturbances in lipid homeostasis. Familial Multiple Lipomatosis (FML) follows an autosomal dominant inheritance pattern and is associated with the appearance of multiple painless lipomas across consecutive family generations. Non-familial sporadic cases are, however, equally well recognized.<sup>1,2</sup>

The clinical differential diagnosis of multiple lipomatosis encompasses several distinct conditions, including Familial Multiple Lipomatosis, Dercum disease (adiposis dolorosa), Madelung disease (Benign Symmetric Lipomatosis), Bannayan-Riley-Ruvalcaba syndrome, and Cowden syndrome. A thorough clinical evaluation combined with histopathological examination is indispensable for establishing an accurate and definitive diagnosis.<sup>1,2,9</sup>

Surgical excision remains the accepted standard of care for lipomas causing symptoms or cosmetic concern. Published reports of successful excision of a very large number of lipomas within a single operative session are scarce in the literature. Herein, we report an uncommon case of extensive multiple lipomatosis in a 34-year-old male

patient, in whom a total of 82 lipomas were excised during a single surgical procedure.<sup>5,10,11</sup>

## **CASE PRESENTATION**

A 34-year-old male presented to the Department of General Surgery with complaints of multiple painless swellings over the abdomen and bilateral upper and lower limbs. The patient first noticed the swellings at approximately 10 years of age. Initially, only a few small nodules were present; however, the lesions progressively increased in both size and number over the subsequent years now progressed to largest size of 9x5 cm.

The patient came to OPD primarily because of cosmetic concerns regarding the continuously increasing number of swellings. There was no associated pain, tenderness, restriction of movement, weakness, sensory disturbances, or impairment of daily activities.

There was no history of trauma, fever, constitutional symptoms, or previous surgical intervention. Importantly, no family members had similar complaints, suggesting a sporadic rather than familial form of the disease.

General physical examination was unremarkable. Vital signs were within normal limits, and systemic examination did not reveal any abnormality.

Local examination revealed multiple soft, mobile, well-circumscribed, non-tender subcutaneous swellings distributed over the anterior abdominal wall and bilateral upper and lower limbs. The skin over the swelling appeared normal without ulceration, pigmentation, or signs of inflammation. The swellings varied considerably in size, with the largest measuring approximately 9x5cm. Approximately 80–90 lesions were clinically identified.

Ultrasonography demonstrated multiple well-defined hyperechoic subcutaneous lesions consistent with lipomas. No suspicious features suggestive of malignancy were identified.

Based on clinical and radiological findings, a provisional diagnosis of extensive multiple lipomatosis was made.



**Figure 1:** Preoperative clinical photograph demonstrating multiple subcutaneous swellings over the trunk and left arm

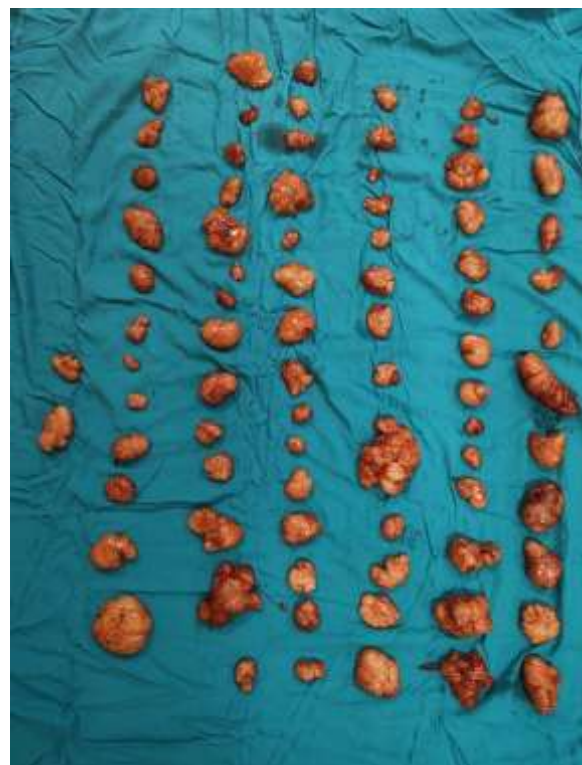


**Figure 2:** Lateral clinical view showing extensive subcutaneous swellings distributed over the abdominal wall and trunk and right arm

### SURGICAL MANAGEMENT

After preoperative evaluation and anaesthetic assessment, the patient was scheduled for surgical excision under general anaesthesia. Careful preoperative marking of the lesions was performed. Multiple planned incisions were made to maximize lesion removal while minimizing postoperative

scarring. Through meticulous dissection, encapsulated lipomatous masses were identified and excised completely. A total of 82 lipomas were removed from the abdomen and bilateral upper and lower limbs during a single operative session. The excised specimens consisted of multiple yellow, soft, lobulated, encapsulated adipose tissue masses of varying sizes. Postoperative recovery was uneventful, and wounds healed satisfactorily.



**Figure 3:** Excised lipomas arranged after surgery demonstrating the large number (n=82) and varying sizes of lesions removed during a single operative session.

### HISTOPATHOLOGICAL FINDINGS

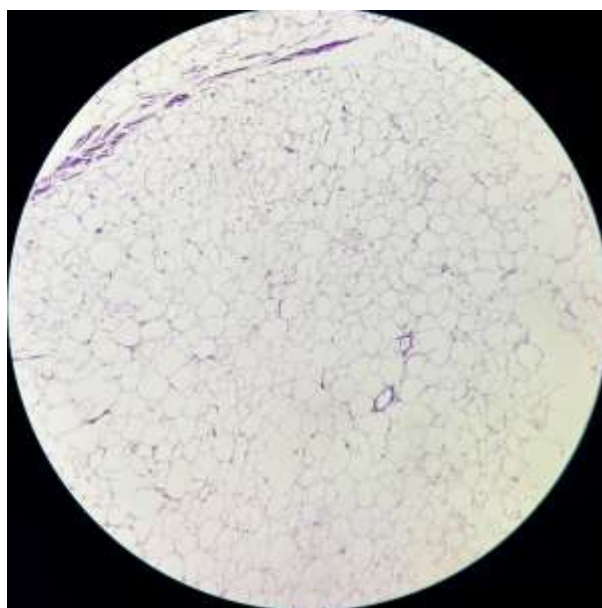
Gross examination revealed multiple encapsulated yellow lobulated soft tissue masses ranging from small nodules to lesions measuring approximately 9x5 cm.

Histological evaluation demonstrated mature adipose tissue organized into well-defined lobules with intervening thin connective tissue strands. Cellular atypia, lipoblast formation, necrosis, and increased mitotic activity were absent.

The histopathological findings were diagnostic of benign lipoma.



**Figure 4:** Gross specimen showing three representative encapsulated yellow lobulated adipose tissue masses.



**Figure 5:** Histopathological image demonstrating mature adipocytes arranged in lobules separated by thin fibrovascular septae. The adipocytes are uniform with no nuclear atypia, lipoblasts, or mitotic activity, consistent with benign lipoma.

## DISCUSSION

Multiple lipomatosis remains a relatively uncommon condition in general surgical practice. Although individual lipomas are common, extensive involvement affecting multiple anatomical regions is rarely encountered.<sup>3,6</sup>

The pathogenesis of multiple lipomatosis remains uncertain. Several theories have been proposed, including inherited genetic mutations, abnormal proliferation of adipocytes, and metabolic disturbances affecting lipid storage and differentiation. In familial forms, autosomal dominant inheritance has been well documented.<sup>1,2</sup>

The absence of a family history in the present case supports a diagnosis of sporadic multiple lipomatosis. Furthermore, the onset

during childhood and progressive increase in lesion number over a period of more than two decades make this case clinically distinctive.<sup>1,3</sup>

Differential diagnosis is important. Familial Multiple Lipomatosis typically demonstrates a positive family history. Dercum disease is characterized by painful lipomas and predominantly affects obese women. Madelung disease (Benign Symmetric Lipomatosis) presents with diffuse symmetrical fat accumulation, particularly in the neck and shoulder regions, and is strongly associated with chronic alcohol consumption. Bannayan-Riley-Ruvalcaba syndrome and Cowden syndrome are hamartomatous conditions also associated with multiple lipomas and other systemic

features. None of these characteristic features were present in our patient, supporting a diagnosis of sporadic multiple lipomatosis.<sup>1,2</sup>

Although malignant transformation of a simple lipoma is exceedingly rare, histopathological evaluation remains essential to exclude atypical lipomatous tumors and well-differentiated liposarcoma. Liposarcoma may clinically mimic a benign lipoma, particularly in deeply situated lesions, but characteristically shows nuclear atypia and lipoblasts on histology—features absent in our case.<sup>2,9,12</sup>

Surgical excision continues to be the treatment of choice for symptomatic lesions and for cosmetic indications. Complete excision allows definitive diagnosis, prevents recurrence associated with incomplete removal, and improves patient satisfaction.<sup>5,10,11</sup>

Liposuction has been described as an alternative technique, particularly in patients with numerous lesions. However, incomplete removal of the capsule may increase the likelihood of recurrence and limit the availability of tissue for histopathological examination.<sup>5,7</sup>

The present case is noteworthy because 82 lipomas were excised during a single operative session. Such extensive disease involving the abdomen and all extremities is rarely reported in the literature. The successful outcome observed in this patient demonstrates that comprehensive surgical management can be performed safely and effectively with appropriate planning.<sup>4,8,10</sup>

At one-month follow-up, the patient showed satisfactory wound healing without evidence of recurrence or postoperative complications. Additionally, the patient reported significant improvement in cosmetic appearance and overall satisfaction with the outcome.

## CONCLUSION

Extensive multiple lipomatosis is a rare benign disorder that may cause significant cosmetic concern despite its non-malignant nature. Early recognition, appropriate evaluation, and meticulous surgical planning

are crucial for optimal management. Complete removal of the lesions continues to be the most definitive therapeutic option, offering both diagnostic confirmation and cosmetic improvement. Histopathological confirmation is essential for definitive diagnosis and to rule out malignancy. This case adds to the limited literature on extensive multiple lipomatosis and demonstrates the successful excision of 82 lipomas during a single operative procedure, achieving satisfactory cosmetic and functional outcomes.

## Declarations By Author

**Informed Consent:** Written informed consent was obtained from the patient for publication of clinical details and images. Patient anonymity has been maintained throughout.

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**Conflict of Interest:** The authors declare no conflict of interest.

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