

## Surgical Management of Advanced Lipedema: A Case Report of Successful Liposuction and Cruroplasty In a 63-Year-Old Patient

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### Abstract

Lipedema is a chronic and progressive disease characterized by the abnormal accumulation of subcutaneous fat, primarily in the lower extremities, leading to pain and impaired mobility. Early diagnosis and appropriate treatment are crucial to managing the condition effectively. This case involves a 63-year-old woman diagnosed with lipedema, who underwent liposuction and cruroplasty. The surgical intervention resulted in the removal of 2500 cc of fat, significantly improving the symptoms and appearance of her extremities. This case highlights the importance of surgical intervention in managing advanced lipedema, emphasizing the need for postoperative follow-up to prevent complications and enhance the patient's quality of life. Surgical intervention in patients with lipedema can lead to significant improvements in symptoms and quality of life, provided that an accurate diagnosis is made and strict protocols are followed.

**Keywords:** Lipedema • Liposuction • Cruroplasty • Plastic surgery • Quality of life

**Evidence Based Medicine Ranking:** Level IV

### Introduction

Lipedema is a chronic disease predominantly affecting women, with an estimated prevalence of 11% to 18% in the female population. This condition is characterized by the abnormal accumulation of adipose tissue in the lower extremities and, in some cases, the upper extremities, primarily affecting women aged 20 to 30 years. Unlike obesity, lipedema does not respond to weight

loss through diet or exercise and presents symmetrically, with symptoms such as pain, easy bruising, and increased sensitivity in the affected areas (1).

Despite its prevalence, lipedema remains underdiagnosed, with many cases being mistaken for obesity or lymphedema, complicating access to appropriate treatment. The pathophysiology of lipedema includes lymphatic dysfunction and microcirculatory alterations, which exacerbate its progression and the disease burden on patients (2).

The management of lipedema focuses on a multimodal approach, including compression therapy, physiotherapy, dietary modifications, and, in selected cases, surgical treatment such as liposuction (3). Recent studies have demonstrated that liposuction can reduce the volume of affected adipose tissue by up to 30%, significantly improving symptoms and quality of life. However, the lack of clearly defined clinical criteria and the absence of curative therapies remain significant challenges in treating this condition (4).

In this context, we present the case of a 63-year-old woman diagnosed with lipedema, who was surgically treated with liposuction and cruroplasty. The case not only highlights the complexities of managing advanced disease but also underscores the importance of surgical intervention in improving the quality of life for patients with lipedema. Through this case, we explore the efficacy of surgical interventions and emphasize the need for early diagnosis and appropriate treatment to prevent disease progression and associated complications.

## Case Presentation

We present the clinical case of a 63-year-old woman, married and a housewife, originally from Culiacán, Sinaloa, and residing in Tepic, Nayarit. She has a history of hysterectomy and laparoscopic cholecystectomy in 2006, as well as surgery for the resection of a lipoma secondary to lipedema in 2002. The patient reported the onset of her condition 20 years ago, with the appearance of a soft mass in the posterior region of the thighs, which gradually evolved into generalized volume increase in both pelvic limbs (Figure 1 and 2). This progression was associated with difficulty in ambulation and pain that worsened while sitting, leading her to seek consultation at the plastic surgery service of the Hospital Valentín Gómez Farfías ISSSTE Zapopan, where she was diagnosed with lipedema.



**Figure 1.** Anterior view. There is a symmetrical increase in volume in the lower limbs, characterized by abnormal accumulation of adipose tissue, mainly in the thigh region. The skin shows superficial irregularities and signs of subcutaneous fibrosis, typical of lipedema in advanced stages.



**Figure 2.** Posterior view. Shows the characteristic distribution of lipedema in the gluteal region and thighs. The presence of deep skin folds and the typical distribution of fat in the lower extremities is seen, with involvement limited to the distal portion of the legs, which helps to differentiate lipedema from other conditions such as lymphedema.

Lipedema is a chronic disorder characterized by the abnormal accumulation of fat in the lower extremities, typically painful and prone to bruising. Given the progression of symptoms, the patient was scheduled for surgical intervention on March 8, 2024, which included liposuction of the pelvic limbs and cruroplasty. During the intervention, liposuction was performed on the anterior, posterior, medial, and lateral aspects of both pelvic limbs, resulting in the extraction of 2500 cc of fat (1250 cc per limb). Subsequently, an oblique cruroplasty using the Carlos Roxo technique was performed, obtaining a 12 cm x 12 cm skin flap, with closure in three layers using Vicryl 2/0 for subcutaneous tissue, Monocryl 2/0 for the dermis, and Monocryl 3/0 for the subdermal layer. Drains were also placed for postoperative management (Figure 3).



**Figure 3.** Significant volume reduction is observed in the extremities, together with the surgical dressings placed over the incisions. The skin presents ecchymosis and mild edema, expected in the immediate postoperative period. Symmetry in the volume reduction is evident, indicative of a successful surgical procedure.

The patient's postoperative course was favorable, with evaluations at 7 days, 1 month, and 6 months post-surgery showing a marked improvement in symptoms, with significant pain relief and improved leg appearance. The patient is currently undergoing protocol for a potential new surgical intervention. This case underscores the importance of appropriate surgical management in advanced lipedema and the need for continuous follow-up to optimize outcomes and improve the patient's quality of life.

## Discussion

Managing lipedema remains a challenge in clinical practice due to its complex and multifaceted nature. By comparing the findings of various authors with the presented clinical case, several key similarities and differences emerge, providing a broader perspective on the effectiveness of surgical interventions and the comprehensive approach to treating lipedema.

In the described clinical case, a 63-year-old patient was successfully treated with liposuction and cruroplasty, achieving significant improvement in symptoms and quality of life. This outcome aligns with the findings of Bouillon et al., who reported that conservative management is often insufficient to address fat accumulation in lipedema, and liposuction can be an effective intervention when combined with other surgical techniques such as tissue debulking (5).

Amato et al. emphasized the importance of ultrasound as a diagnostic tool for lipedema, allowing for better differentiation between lipedema and other conditions such as lymphedema and obesity. This diagnostic approach could have been beneficial in the presented clinical case, as early and accurate detection would have allowed for more efficient management of the condition. However, the diagnosis in this case was clinical and based on the classic symptomatic presentation of lipedema (6).

Furthermore, Bertlich et al. described a case of lipedema in a male patient, highlighting the rarity of this diagnosis in men and the crucial role of tumescent liposuction in treatment, resulting in significant improvement in symptoms and aesthetics. Although the intervention was similar to that in the presented clinical case, gender differences and possible hormonal influences suggest that managing lipedema may require an even more personalized approach based on patient characteristics (7).

In comparison, Bouillon et al. also highlighted that in severe lipedema cases, such as the one presented, a more aggressive approach, including multiple sessions of liposuction and debulking, is necessary to achieve satisfactory aesthetic and functional outcomes. This approach aligns with the discussed clinical case, where the patient underwent multiple surgical procedures to address advanced lipedema (5).

Finally, the presented clinical case reinforces the need for early diagnosis and comprehensive management of lipedema, considering both surgical interventions and long-term postoperative care. Comparing the reviewed studies underscores the importance of a multimodal approach, which may include liposuction and skin excision surgery, tailored to the patient's individual needs.

## Conclusion

While the results of surgical interventions in the management of lipedema are promising, as observed in the various cases studied, a careful evaluation and personalized therapeutic approach remain essential for each patient.

## Conflict of Interest

The authors declare no conflicts of interest.

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