

# MICRO-FRAGMENTED ADIPOSE FAT TREATMENT FOR LICHEN SCLEROSUS LIPOGEMS®



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## INTRODUCTION

Lichen sclerosus (LS) is a chronic, inflammatory dermatosis that primarily affects the anogenital region in women, significantly impacting physical, sexual, and psychological wellbeing<sup>1</sup>. Characterised by intense pruritus, pain, and progressive architectural changes, LS is commonly diagnosed in postmenopausal women but can occur at any age. Standard treatment typically involves the use of high-potency topical corticosteroids, which, while effective in many cases, often provide only partial or temporary relief<sup>2</sup>. Furthermore, long-term use of these agents is associated with adverse effects such as skin atrophy and decreased efficacy over time, prompting a growing need for alternative or adjunctive therapeutic approaches<sup>1</sup>.

Recent developments in regenerative medicine have introduced autologous micro-fragmented adipose tissue—Lipogems®—as a novel intervention with promising potential<sup>3</sup>. Lipogems® therapy leverages the anti-inflammatory and tissue-reparative properties of adipose-derived mesenchymal stem cells to support healing across a range of chronic conditions. Despite its growing application in orthopaedics and wound healing, its use in the management of vulvar LS remains underexplored, particularly within clinical settings. This observational case series seeks to evaluate the safety and therapeutic efficacy of Lipogems® injections in women with vulvar LS, as administered at the only known UK centre currently offering this treatment.

## OBJECTIVE

To evaluate the safety and efficacy of autologous micro-fragmented adipose tissue (Lipogems®) injections for the treatment of vulvar lichen sclerosus (LS) in women, using outcome data from the only UK centre currently providing this therapy.

## METHODOLOGY

This observational case series included 38 women aged 22–84 years with a confirmed diagnosis of vulvar lichen sclerosus (LS), treated at a single UK centre offering Lipogems® therapy. Ten patients were excluded due to alternative diagnoses, including vaginal atrophy, stress urinary incontinence, or lichen planus.

All 28 included patients underwent liposuction to harvest autologous adipose tissue, which was subsequently processed into a micro-fragmented form using the Lipogems system. The prepared tissue was then injected into the affected vulvar regions.

Patients were followed for 6 to 24 months post-procedure. Outcomes were assessed using validated tools, including the Female Sexual Function Index (FSFI), the Vulvovaginal Symptoms Questionnaire (VSQ), the SF-12 Health Survey, and routine clinical evaluations.

## KEY FINDINGS

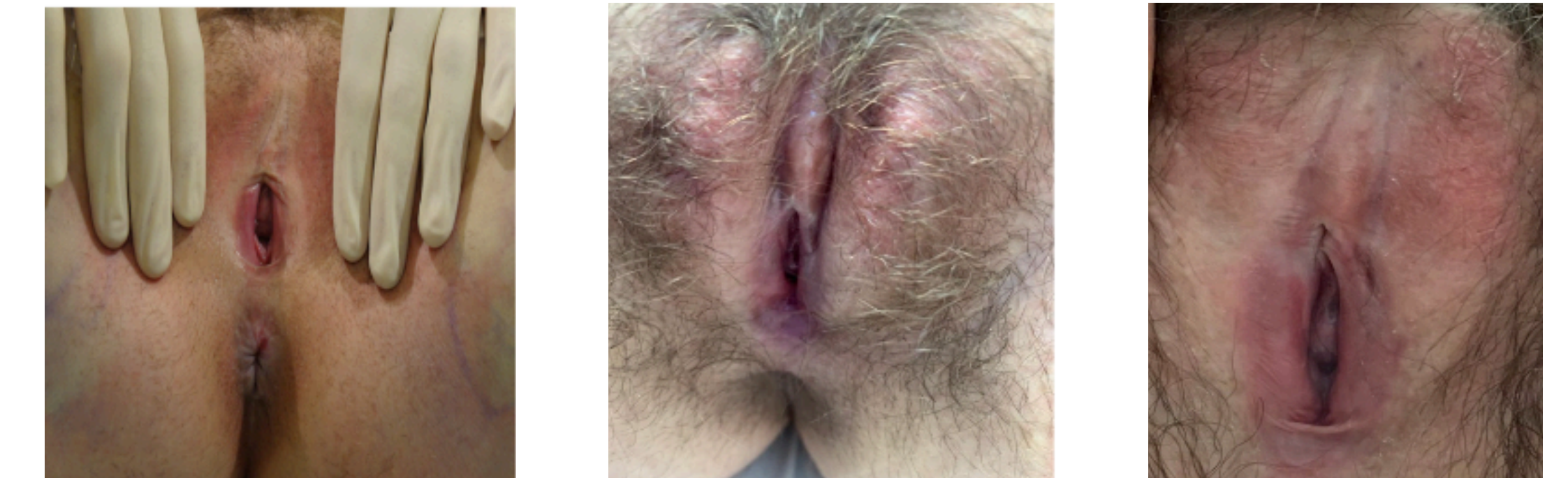
- **Symptomatic Improvement:** 26 out of 28 women (93%) reported symptomatic improvement within 6 to 24 months following Lipogems treatment. Some had follow up for more than 5 years . Notable improvements were observed in pain, dysuria, and vulvar skin condition, particularly in the anterior and perianal regions.
- **Safety:** No adverse events or complications were reported during recovery or follow-up.
- **Acute Cases:** Two women with acute LS (symptom duration <1 year) experienced complete resolution of symptoms.
- **Chronic Cases:** Two women with severe, chronic LS required repeat Lipogems procedures in 2019 and 2024.
- **Anatomical Changes:** Structural alterations due to the autoimmune diseases such as labial fusion and clitoral adhesion did not reverse with treatment.
- **Non-Responders:** one patient identified as having sever lichen planus did not benefit from the therapy. Another Patient had partial improvement.

## ANALYSIS

The results suggest that autologous micro-fragmented adipose tissue (Lipogems®) is a safe and promising treatment for vulvar lichen sclerosus, with the majority of patients reporting significant symptom relief. The absence of adverse events further supports its safety profile. Improvements were most notable in early or moderate cases, while chronic, severe LS showed partial response, often requiring repeat treatment. The lack of improvement in patients with lichen planus highlights the importance of accurate diagnosis and patient selection. Although architectural changes remained irreversible, the overall enhancement in symptoms and quality of life indicates that Lipogems® may be a valuable adjunct or alternative to conventional therapies.



Figure 1: The final stage of harvesting of adipose tissue to remove impurities<sup>4</sup>.



Figures 2, 3 and 4: From left to right, lesions just before the procedure, 7 and 24 months after fat transfer of micro-fragmented adipose tissue (MFAT) in a refractory case of lichen sclerosus.

## CONCLUSION

This case series demonstrates that autologous micro-fragmented adipose tissue (Lipogems®) injections are a safe and potentially effective treatment for vulvar lichen sclerosus. The majority of patients experienced significant symptom relief and improved quality of life, particularly those with early or moderate disease.

While structural (architectural) changes—such as labial fusion and clitoral adhesion—remained largely irreversible, the absence of adverse events and the need for repeat procedures in only a small number of chronic cases support the therapy’s safety and clinical utility. Notably, patients with lichen planus did not respond, highlighting the importance of accurate diagnosis and appropriate patient selection.

Lipogems® therapy may serve as a valuable adjunct or alternative to conventional treatments. However, further research—particularly larger, controlled studies—is needed to validate these results and establish long-term efficacy.