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Byeon H. Enhancing orthodontic osteodilated arch treatment through comprehensive nursing interventions and cognitive behavioral therapy. *World J Clin Cases* 2025; 13(12): 99301 [DOI: [10.12998/wjcc.v13.i12.99301](https://doi.org/10.12998/wjcc.v13.i12.99301)]

Liu XC, Liu YX, Liu C. Concurrent occurrence of adenocarcinoma and urothelial carcinoma of the prostate: Coexistence mechanisms from multiple perspectives. *World J Clin Cases* 2025; 13(12): 100248 [DOI: [10.12998/wjcc.v13.i12.100248](https://doi.org/10.12998/wjcc.v13.i12.100248)]

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SYSTEMATIC REVIEWS

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LETTER TO THE EDITOR

Shulkin A, Efanov JI. Enhancing outcomes in severe lymphedema through combined treatment strategies. *World J Clin Cases* 2025; 13(12): 98825 [DOI: [10.12998/wjcc.v13.i12.98825](https://doi.org/10.12998/wjcc.v13.i12.98825)]

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Enhancing outcomes in severe lymphedema through combined treatment strategies

Aidan Shulkin, Johnny I Efanov

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Abstract

Lymphedema, particularly in its advanced stages, presents significant challenges in treatment, often necessitating a combination of therapies to manage symptoms effectively and improve patient outcomes. This article reviews the findings of Wang *et al*, regarding the use of lymphovenous anastomosis and complex decongestive therapy in treating severe, deformed stage III lymphedema with recurrent infections. The case report details the promising results achieved through this combined therapy, highlighting substantial reductions in limb volume and the complete resolution of recurrent lymphangitis. The patient experienced notable improvements in weight loss, physical function, and quality of life. Despite its strengths, the study has several limitations. It lacks specific details on the types of lymphovenous anastomoses performed and complex decongestive therapy protocols, such as frequency and adherence, making reproducibility difficult. The short follow-up period of six months limits understanding of long-term efficacy, and more consistent reporting of key metrics such as weight loss and body mass index would enhance outcome assessments. This article emphasizes the importance of integrating minimally invasive surgical techniques with conservative therapies to address both the symptoms and underlying causes of lymphedema. Further research is essential to standardize protocols and refine combined treatment strategies.

Key Words: Lymphedema; Lymphangitis; Lymphovenous anastomosis; Complex decongestive therapy; Quality of life; Mobility

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Core Tip: This article highlights the effectiveness of combined therapy, particularly complex decongestive therapy and lymphovenous anastomosis, in treating severe deformed lymphedema, as demonstrated in a case report by Wang *et al.* The patient achieved significant improvements without reductive surgery, underscoring the potential of integrating conservative and minimally invasive treatments. The report emphasizes the need for continued research to optimize and standardize combined treatment protocols, considering both the benefits and limitations of current therapeutic approaches.

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TO THE EDITOR

Introduction

Identifying the most effective treatment options for lymphedema is crucial, not only to alleviate symptoms such as oedema, pain, and erythema, but also to prevent complications like cellulitis and lymphangitis. This is essential for enhancing patients' quality of life[1]. Unfortunately, lymphedema can be particularly challenging to treat, especially in its later stages. For patients with mild to moderate lymphedema, general measures such as limb elevation, maintaining an ideal body weight, skin care, and functional exercise are the first line of treatment. Complex decongestive therapy (CDT), which includes continuous interventions such as manual lymphatic drainage and compression therapy, is also safe and has been demonstrated to further reduce limb volume[2,3]. However, these conservative treatments often yield limited results for those with severe lymphedema, making surgical intervention necessary. Surgical management of lymphedema is divided into two main approaches: Physiologic and reductive techniques[4]. Physiologic techniques, such as lymphovenous anastomosis (LVA) and vascularized lymph node transfer (VLNT), are typically used for patients in the early stages of lymphedema before significant fat deposition and extensive tissue fibrosis occur. Reductive techniques aim to remove fibrofatty tissue and include methods like direct excision, suction-assisted lipectomy, and radical reduction with perforator preservation.

Treatment approach

Wang *et al*[5] detail their approach to treating severe, deformed stage III lymphedema of the lower limbs in a patient that suffered more than 30 episodes of lymphangitis. We would like to commend the authors for their encouraging results using conservative and minimally invasive techniques, specifically CDT and LVA, for a patient with severe lymphedema. It is well-established that LVA, as a minimally invasive treatment option, offers several advantages, including its rapid recovery time, low rate of postoperative complications, and preservation of skin aesthetics[6]. While VLNT might achieve greater limb volume reduction[7,8], it carries a significant risk of lymphedema developing in the donor limb after lymph node harvest[9]. Reductive techniques are valuable when other treatments fail but should be approached with caution. These methods do not address the underlying lymphatic dysfunction, and results may reverse without proper maintenance. Liposuction often requires long-term subsequent pressure therapy[10]. Resection surgery poses a higher risk of complications, such as lymphatic vessel damage, postoperative pain, infection, scarring and poor cosmetic outcomes[11].

Reported results

In the case report[5], the patient achieved remarkable results without undergoing reductive surgery. The patient lost 49 kg, while her body mass index (BMI) improved from 57.02 to 36.63. Her leg swelling reduced substantially, her pain resolved, and she regained the ability to walk, cycle, and run without difficulty. The patient's left leg showed a circumference decrease of up to 35.2 cm, while the right leg showed a circumference decrease of up to 37.5 cm. Upon further evaluation, the greatest overall improvement in limb circumference was observed 10-30 cm from the back of the foot. This corresponded to a reduction of 43%-52% in the distal left leg and 37%-43% in the distal right leg. More moderate but still significant results were observed in the proximal regions. Additionally, at follow-up, the patient had not experienced any episodes of lymphangitis since the initiation of treatment.

This aligns with existing literature on the effectiveness of LVA. The highest limb circumference reduction rates following LVA, reported in a recent systematic review, ranged from 51.1% to 63.8%, while almost all studies reported a decrease in the incidence of cellulitis or lymphangitis[12]. Another systematic review demonstrated objective reductions in circumference measurements in 83% of patients, while 50%-100% reported a subjective improvement in their symptoms[13]. What is different about Wang *et al*'s case report[5] is that they performed this combined approach in a patient with established stage III lymphedema.

It's important to note that continuous CDT was performed for two months prior to the surgical therapy and maintained until follow-up. Although limited data is available in the literature, CDT has the potential to enhance lymphatic performance and aid in the reconstruction of lymphatic vessels, which may contribute to improved outcomes in consecutive surgical interventions. A recent randomized controlled trial revealed that LVA combined with CDT was more effective in preventing cellulitis than CDT alone. However, limb circumference and pain were not significantly different between the two groups[14]. This contrasts with other studies, where both objective and subjective impro-

vements were confirmed in patients following combined therapy[15,16]. In our institution, patients with continued CDT in the months prior to LVA demonstrate better postoperative outcomes in limb circumference reduction as well, with data to be published soon.

Strengths and limitations

Another major strength of this study[5] is the use of a staged surgical approach, performing LVAs in various locations over subsequent phases, months apart. This strategy was employed to prioritize patient safety and optimize treatment effectiveness, as clearly stated in the report. However, the specific types of LVAs performed were not mentioned. Recent studies have demonstrated that certain techniques yield greater results than others[17,18]. Knowing the specific LVA techniques used would be beneficial for understanding which methods contribute most effectively to limb volume reduction and for guiding future treatment protocols.

It would be of great interest to determine whether the lymphedema reduction is sustained beyond six months. A longer study period would be necessary to better understand the long-term results of combined therapy. Furthermore, while it is clear that Wang *et al.*'s patient continued CDT until the six-month follow-up, few concrete details are provided about the frequency and specific therapies performed[5]. Key questions remain unanswered: When was pressure therapy initiated? Was manual lymphatic drainage consistently performed throughout the study? Did the patient maintain adherence to CDT over the full six-month treatment period? What skin care and exercise regimens were implemented? Additionally, while weight loss and BMI were noted at various stages of the treatment, consistently providing these metrics would have greatly enhanced the assessment. These details are essential for a comprehensive evaluation of the treatment's effectiveness.

CONCLUSION

In conclusion, the case report[5] highlights the promising results of combined therapy for treating severe lymphedema. The strengths of this study include its staged surgical approach, prioritization of patient safety, and use of CDT to enhance the outcomes of LVA. This report[5] underscores the potential of combined therapy approaches to significantly improve patient outcomes, suggesting a need for further research to optimize and standardize treatment protocols.

FOOTNOTES

Author contributions: Shulkin A generated conceptualization, designed the study, and also contributed to the acquisition of data and its initial analysis; Efanov JI oversaw the entire project, ensured the accuracy of the analysis, and provided final approval of the version to be published; and all authors drafted the manuscript and revised it critically.

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