

MEDICAL CASE STUDY
THE EFFECTIVENESS OF THE COMPLETE DECONGESTIVE THERAPY (CDT)
PROCEDURE ON THE TREATMENT OF LYMPHEDEMA

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Abstract

The ideal purpose of the study is to examine the effectiveness of the Complete Decongestive Therapy (CDT) Procedure on the treatment of Lymphedema from different backgrounds. Lymphedema occurs from the disruption of the functions of the Lymphatic system. A total of 22 patients with Lymphedema were used in the study to determine the effectiveness of CDT. From the study, CDT is the best method of treating Lymphedema since it reduces swelling. The treatment in question has two phases. The first phase is the intensive phase, and the second phase is the maintenance phase. The first phase involves mobilizing the fluid and initiating a decrease in the increased connective tissue. The second phase's objective is to maintain swelling reduction and optimize connective tissue reduction.

Keywords: Complete Decongestive Therapy (CDT), Manual Lymph drainage (MLD), Lymphedema, Compression Therapy

Introduction (12)

Lymphedema occurs from the disruption of the functions of the Lymphatic system. The Lymphatic system has vessels that gather and draw lymph fluid from the tissues, skin, muscle, and bone. The lymphatic system drains the fluid and returns it to circulation. The lymphatic system's insufficiency results in the gathering of protein-rich interstitial fluid resulting in enlargement and progressive fibrosis. Moreover, the lymphatic system plays the role of retaining the tissue fluid homeostasis, absorption of lipids, and transport from the gastrointestinal lumen and in the traffic of immune-competent cells from the periphery to the central lymphoid tissues. Thus, Lymphedema is a chronic condition that results from Lymphatic systematic failure and occurs mostly in the Limbs. On the other hand, CDT is one of the recognized treatments for Lymphedema. Therefore, this essay seeks to critically examine the effectiveness of the Complete Decongestive Therapy (CDT) Procedure on the treatment of Lymphedema from different backgrounds.

Methods

The study included 22 patients (15 women and seven men). The youngest patient is 13 years, and the oldest patient is 70 years. The average age of all the patients is 30 years. The duration of treatment of the patient varies between two to six weeks. The medical history of the patient was recorded to determine whether they have other illnesses. The treatment methods applied are CDT, Manual Lymph drainage, skincare, and compression therapy.

Results

After several interventions, there was a reduction in swelling. The therapies applied to the patients were effective in reducing limb volume and circumference. Manual Lymph drainage was efficient in reducing the maximum circumference. The circumference was reduced after treatment. Moreover, after four weeks of treatment, the patients showed improved quality of life and reduced pain. The patients treated with CDT had greater improvement compared to the Compression Therapy Group.



Fig 1. Picture of a 34-year-old female patient in stages 1 and 2 of Lymphedema before and after treatment.



Fig 2. Picture of a 30-year-old male patient in stage 2 of Lymphedema before and after treatment.



Fig 3. Picture of a 34-year-old male patient in stage 3 of Lymphedema before and after treatment.

Discussion

From the pictures above of before and after treatment, it is clear that swelling reduces after treatment. Swelling reduces faster for the patients with no other diseases and takes time in the patients with other diseases. For instance, the third picture is of a patient with Down syndrome, and the swelling reduces slightly after treatment. Additionally, swelling reduces faster in the first and second stages, and in the third stage, it takes time. The number of weeks of the first phase depends on the stability of the tissue and the amount of swelling; CDT for one-hour sessions, 4 to 5 days per week, and bandages that contain foam are worn for about 23 hours per day, and they are removed when bathing. The second phase of the treatment in question lasts for months or years (Kutlay et al., 2019). Moreover, in the second phase, elastic compression garments are worn during the day. The foam bandages are at night to lower the day's Swelling, and exercises are done while wearing compression.

According to the International Society of Lymphology, CDT is the best treatment for Lymphedema (de Godoy et al., 2014). From the various studies, the effectiveness of CDT is the improvement of the symptoms of Lymphedema,

such as pain and swelling. CDT is an intensive program, and it aggregates several treatment techniques such as bandaging, compression garments, manual lymphatic drainage, exercise, and self-care. CDT started in Europe and Australia, and it has become more prevalent in several nations, for instance, the United States. CDT is effective since it can reduce the volume of Lymphedema efficiently, improve the patients' mobility, and raise the quality of life.

The treatment in question has two phases. The first phase is the intensive phase, and the second phase is the maintenance phase. The first phase involves mobilizing the fluid and initiating a decrease in the increased connective tissue. The second phase's objective is to maintain swelling reduction and optimize the connective tissue reduction (Vojáčková et al., 2012). Moreover, the first phase consists of several therapeutic approaches: manual Lymph drainage, pneumatic pump drainage, low stretch bandaging, exercises, and skincare. On the other hand, the second phase involves Self lymph drainage and low stretch bandaging.

Complete Decongestive Therapy (CDT) components include the following: Manual Lymphatic Drainage (MLD), Compression, Exercises, Skincare, and self-care. Manual Lymphatic Drainage involves a light skin elongation technique that instigates the lymphatic system (Uzkeser et al., 2015). Compression is layered bandaging that consists of foam to control swelling. Exercises will assist in pumping Lymph out of the swollen part. Skincare involves keeping the skin clean and moisturized to avoid infections that often occur with Lymphedema. Self-care is the management and the training, and it involves the management of Lymphedema at home.

Moreover, Manual Lymphatic Drainage is a light, skin stretching massage that promotes the movement of lymphatic fluid out of the swollen Lymph. MLD Focuses on Lymph vessels to help the flow of Lymphatic fluid (Tánori-Tapia et al., 2020). Moreover, MLD helps in opening the remaining functioning lymph collectors and move protein and fluid into them, and at the same time speed up lymph fluid flow through the Lymphatic. Compression Therapy is an essential component in treating Lymphedema. The products applied for

compression therapy are elastic garments and low-stretch bandages. Bandaging is used in stages two and three of Lymphedema. Bandaging involves developing a soft cast on the arm by wrapping it with several layers. Bandaging is the major component of CDT. Since it is a reductive therapy and makes the limb smaller, the bandage will help prevent fluids from returning into the limb, and it also moderates the tissue under the skin. Besides, the compression garments are intended to keep continuous pressure on the swollen part and minimize the swelling.

Exercises are the other essential component of CDT. Exercises involve gentle stretching and several motion exercises, thus promoting muscle contraction and strengthen the Lymphatic system. The exercises with lightweight do not influence the volume of Lymphedema unfavorably, and the volume of the gathered fluid is lowered after 24 hours (Karafa et al., 2018). The exercises for upper limb lymphedema include the warm-up activity by actively mobilizing large joints at a moderate pace for 5 minutes, shoulder girdle mobilization, and pectoral and trapezius muscles stretching. The other component is skincare, and it is vital since the disturbances of the skin metabolism cause the skin of the patients with Lymphedema to be itchy, sensitive, and dry. The major aim of skincare is to keep the skin normal and healthy.

Conclusion

CDT is the best treatment for Lymphedema. Since the major goal of the treatment is to give enduring control of Volumetric and met aplastic tissue transformations related to Lymphedema. The treatment is beneficial when it is applied appropriately by trained therapists. CDT attains and retains limb volume decreases by 50 percent. The phases of CDT are two, the first phase is the intensive phase, and the second phase is the maintenance phase. The first phase involves mobilizing the fluid and initiating a decrease in the increased connective tissue. The second phase's objective is to maintain swelling decrease and the optimization of the connective tissue decrease. From the various studies, the first phase is more effective in the treatment of Lymph edematous limbs. Complete Decongestive Therapy (CDT) components include; Manual Lymphatic Drainage

(MLD), Compression, Exercises, Skincare, and self-care.

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