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Role of Hand Held Low Level Laser Device in Treatment of Lymphedema Our Experience

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Abstract

Lymphedema is a disease affecting lymph flow causing symptoms of pain, oedema, and increased chance of infection. There are different modalities of treatment of lymphedema and includes decongestive compression therapy and methods to cause debunking of the oedema. Recently we came across use of LLLT in lymphedema treatment as well as a hand-held low-level laser machine. We share our experience of the application of the hand-held laser device in the management of lymphedema.

Keywords: Low Level Laser Device; Lymphedema.

Introduction

Lymphedema is a disease caused by obstruction to lymph flow.[1] Primary lymphedema arises from aberrant lymphatic development. The damaged lymphatics cannot transport lymph in adequate quantities and the lymph accumulates in the lymphatic spaces.[2] Low Level Laser Therapy (LLLT) is reported to have beneficial effects on cells and tissues in a broad range of conditions, including lymphedema, through encouraging formation of lymphatic vessels (lymph angiogenesis), promoting lymphatic flow and stimulating the immune system. LLLT uses waves between 650-1000 nm.[3,4]

Materials & Methods

This is a prospective case study of a 29-year female admitted in the department of Plastic Surgery in August 2019, with c/o swelling of the left lower limb for 16 years. The patient was assessed and investigated thoroughly. The patient was diagnosed to have primary lymphedema of the left lower limb associated with secondary skin changes (WHO grade-7). The patient was given standard care as per International Society of Lymphology (ISL) guideline. As the patient was not willing for any microsurgical or excisional procedure, a decision was made to perform liposuction. The patient was given low level laser device (fig. 1) for prevention of recurrence over the affected limb. The patient was instructed to use the device once a day for 15 minutes over the affected limb every day for 6 weeks and the cost of the laser comb devices range from 400 to 400 to 5000 INR.

Results

There was no recurrence of the lymphedema and the patient was satisfied with the treatment after 6 weeks of follow up. (Figure 2)

Fig. 2: after liposuction at 6 weeks of follow up.

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