



Faculty of Physical Therapy



The Effect of Cold Laser versus Pulsed Electromagnetic Field on Diabetic Foot Ulcer

Participated Students:

1. Alyaa Khaled Abd El-Atti Youssef
2. Yasmine Moustafa Mahmoud El-Yamany
3. Sherouk Salah El-Din Abd El-Moniem Zaher
4. Nouran Ibrahim Mohamed Mohamed
5. Salma Mousaad El-Sayad Mohamed
6. Salma Khamis Mohamed Abd El-Hameed

Under Supervision of:

- Prof.Dr. Awny Rahmy
- Dr. Hoda Saad El-Din
- Dr. Rania Hassan

Project Summary:

Objective:

Diabetic foot ulcers are one of the most common complications of diabetes mellitus and are defined as non-healing or long lasting chronic skin ulcers in diabetic patients. On the one hand, Cold laser (low-level laser therapy) has been shown to promote the healing of chronic wounds and diabetic ulcers as a noninvasive, pain-free method and has been considered as a possible treatment option for diabetic foot ulcer. On the other hand, Pulsed Electromagnetic field (PEMF) is a non-invasive therapeutic technique that exerts beneficial effects on wound healing. It's characterized by electromagnetic fields inducing micro-currents to a specific targeted tissue or the whole body and has been investigated as a therapy for wound healing.

Aim of the work:

This study aimed to evaluate and compare the effect of low-level laser therapy (LLLT) versus the pulsed electromagnetic field (PEMF) on treating diabetic foot ulcer in patients with diabetes mellitus.

Patient and Methods:

The study was carried out on 30 patients with type II diabetes suffering from diabetic foot ulcer and were equally divided into two groups each group included 15 patients. Group A (LLLT group): received LLLT and Group B (PEMF group): received PEMF for 12 sessions at a frequency of 3 sessions/ week.

Results and conclusions:

The study proved that Cold laser and PEMF are two effective and recommended modalities in the management of infected diabetic foot ulcer. However, laser therapy is better and faster for wound regeneration.