CLINICAL REPORT

No. 3

Les Jonsson

Preoperative Low Level Laser application to reduce post-operative pain in patients receiving winograd type of partial matrixectomy surgery of hallux

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Introduction

Low level laser was introduced as a part of our surgical regime to assist with post operative healing following digital surgery. It was observed that fewer patients returned for post-operative redressings complaining of post operative pain. A pilot study has been undertaken to report the level of pain experienced by patients who received a Winograd type partial matrixectomy of the hallux. To reduce the number of extraneous variables the surgery was undertaken in the same setting with the same surgeon and staff with the same operative instructions provided. Laser Therapy was used within 30minutes of surgery.

Method

Each patient was placed on the operating table in the supine position. The laser probe was placed against the epidermis and applied at 1.8J/cm^2, 5.7Hz, with wavelength 830nm and output power 40mW from a Maestro, laser manufactured by MediCom Prague. Czech Republic. The probe was applied at 2 points at each surgical site and at one point at each of the two sites for undertaking the digital anaesthetic block at the proximal aspect of the great toe. A mixture 5cc of 50/50 2% plain xylocaine and 0.5% Marcaine was injected dorsal to plantar into the proximal aspect of the great toe. The feet were prepped and draped in the normal sterile manner. A partial nail plate avulsion was achieved with removing 2-3mm of the fibular and/or tibia nail borders. A Betadine scrub was then undertaken. This was followed with an incision proximal to the proximal end of the matrix along the course of the new nail edge to the distal end of the nail. A second incision was made in a semi elliptical fashion from the proximal end of the first incision along the course of the original nail border joining with the distal end of the first incision. Both incisions were made down to bone and all tissue was removed. Matrix within the cavity was removed. Saline irrigation was applied to the cavity. The cavity was closed with Proline sutures at proximal and distal ends with steristrips across the nail section. The tourniquet was released and blood flow was observed to return to the area. A dressing of Betadine and Bactagras was applied with 4 x 4 sterile gauze, followed by gauze bandage and Coban.

Each patient was given oral and written instruction and an appointment for redressing in 5 to 7 days. Instructions included the suggestion that the patient take Panadol. Each patient appeared tolerated the procedure well and left the surgery ambulated.

One returning to the surgery after five to seven days for redressings, each patient scored on a 10cm Visual Analogue Scale, the level that best illustrated the highest level of pain that they experienced following the operation.

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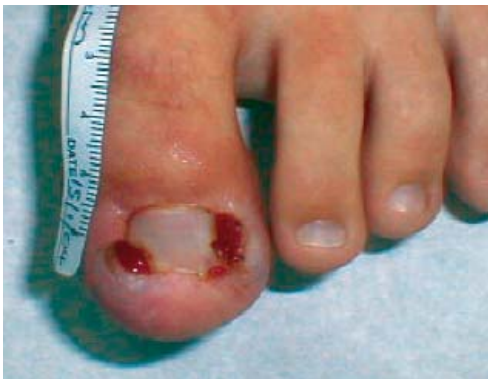
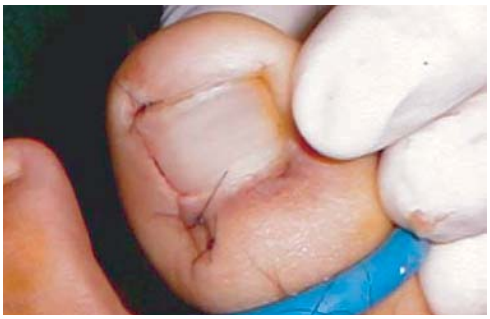
Results

Those in the Laser group (N=12) scored an average of 2.1 whereas those in the Non laser group scored an average 7.2 (N=3).

Conclusions

The level of self medication for pain relief was not monitored and no breakdown of ethnicity, age or sex was recorded for any patients. The authors note the small number of subjects in this study, in particularly the “No Laser” group. Given the low pain scores of the laser group reporting low pain scores, it is expected that these authors will afford all future eligible patients the opportunity of pre-operative laser therapy for this and other types of surgery. Other practitioners who do not use laser, who use like surgical techniques are encouraged to conduct a similar study on their patients, to make a comparison with the current study and to report their findings.





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