

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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The Effect of Low Level Laser Therapy in
Treatment of Keloids and Hypertrophic Scars
(Comparative Study)

Dissertation submitted for partial fulfillment of the
requirements for the degree of post graduate diploma
of laser applications in medicine dermatology

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ABSTRACT

Keloids and hypertrophic scars are skin diseases which cause disfigurement, itching which may be severe and when it is present in the chest. It can cause tightness and pain especially if it is big in size.

This study was done in the Institute of Laser-Sudan University of Science and Technology, Khartoum- Sudan, from January to April 2009.

The objective of this study was done to evaluate the effectiveness of Low Level Laser Therapy (DIODE LASER 820 nm) in treatment of keloids (group1) compared with laser + penicillamine (group 2). Twelve patients from both sexes had been selected aged from 4 to 72 years. The number of sessions ranged between 8 to 12 sets (8 patients from group1 and 4 from group 2). They had been received multi pulse treatment with frequencies of 20,73, and 700 Hz. The duration was 30s with energy density (48 j/cm^2) by probe 1 (820nm) and 2 minutes (9.6 j/cm^2) by probe 2 (cluster probe). The exposure time and probes were selected according to the site and size of the lesion. The improvement was assessed by Vancouver burn scar score.

Statistically it has been found that there was a significant improvement in symptoms, color, height, and pliability in the two groups after treatment. Clinically the improvement was more rapid

in group 2 patients. By using Fisher's Exact to compare between the two groups of treatment, it has been found that there was no significant difference. Thus using Low Level Laser Therapy (Diode Laser 820 nm) in treatment of Keloids is greatly recommended.

ملخص الدراسة

مرض الجذرة هو مرض جلدي يسبب منظرا قبيحا وحكة من الممكن أن تكون شديدة في بعض الاحيان وعندما تظهر في الصدر تسبب شد و الم خاصة اذا كانت كبيرة الحجم.

هذه الدراسة أجريت في معهد الليزر بجامعة السودان للعلوم والتقنية - الخرطوم - السودان من يناير الي ابريل 2009

الهدف من هذه الدراسة هو تقييم فعالية جهاز الدايدود ذوالقدرة المنخفضة في المقارنة بين مجموعتين من المرضى:

المجموعة الاولى عولجت بالليزر فقط والمجموعة الثانية عولجت بالليزر بالاضافة الي عقار البنسلامين.

اجريت هذه الدراسة علي اثني عشر مريضا من كلا الجنسين اعمارهم تتراوح بين 4-72 سنة. عدد الجلسات تراوحت بين 8-12 جلسة. ثمانية مرضى في المجموعة الاولى واربعة مرضى في المجموعة الثانية.

وقد تم علاجهم بمعالجة نبض متعددة بترددات 20-73-700 هيرتز لمدة 30 ث للنقطة الواحدة بكثافة طاقة 56 جول في السنتمتر المربع بمسبار 1-820 نانوميتر ولمدة دقيقتان بالمسبار العنقودي 2 بطاقة قدرها 9.6 جول بالسنتمتر المربع . زمن التعرض ونوع المسبار اختير حسب المكان المراض معالجته وحجمه. وقيم التحسن علي حسب نظام ندبة حرق فانكوفر.

وجد تحسين مقدر في المجموعتين من حيث الاعراض واللون والارتفاع والليونة بعد العلاج وعمليا وجد التحسين أكثر وأسرع في المجموعة الثانية.

أما بالتحليل الاحصائي باستخدام اختبار فيشر المعنوي لم يوجد هناك فرق في العلاج بين المجموعتين.

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