

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
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**The Efficacy of 1064 nm Nd: YAG Laser and
the Hyfrecator®2000, CONMED in
The Treatment of Dermatosi Papulosa
Nigra, a Comparative study**

*A dissertation submitted for partial fulfillment
of the requirements for the degree
of Post Graduate-Diploma of Laser
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ENGLISH ABSTRACT

Back ground: Dermatosis papulosa nigra (DPN) is a common benign condition generally occurring in the adult black population. No treatment generally is indicated for DPN unless lesions are cosmetically undesirable .DPN has been treated before with convential therapy such as curettage, (cryotherapy), and electrodessication .Recently treatment with laser therapy like pulsed dye laser and Nd: YAG laser has also been reported.

Objectives: This study aimed to compare the outcome of the treatment of dermatosis papulosa nigra with the 1064 Nd: YAG and the®2000 hyfrecator.

Materials and Methods: A prospective, clinical descriptive intervention study was carried out in December 2010 –April 2011 in eleven patients with DPN selected from different dermatology clinics in Khartoum State. Personal and clinical data were recorded in a proforma for every patient. The laser system (1064 Nd: YAG) was used for the removal of the lesions on the right side, while the ®2000 hyfrecator system was used for the left side .The 1064 Nd: YAG laser was used in the standard mode with the focusing hand-piece in a non-contact application with a fluence of 165- to168 joules/second, 5ms pulse duration and 2.5 mm spot size. The hyfrecator was used in the low mode with a range of power from 5-8 watts; the tip was put close to the lesion without contact. Ten elements were proposed for evaluation and 10 % was given for everyone. Photogrphs were taken from the patients as well as written consent.

Results conclusions and recommendations: The results of seven patients who completed six weeks, were evaluated. Excellent response was achieved in 3 patients with laser and in 3 with hyfrecator. Very good response in 3 patients with laser and 2 patients with hyfrecator. Good response in one patient with laser and 2 with hyfrecator. None of the patients showed poor or bad response with the 1064 Nd: YAG or the®2000 hyfrecator. Atrophic scar was developed in one patient on the laser side and in 3 of patients with hyfrecator. Wound infection occurred in no patient on laser side and in one patient with hyfrecator. Residual tissue in one patient with laser and 3 with hyfrecator. Hyper pigmentation lasted more than 6 weeks in 4 patients with laser and in 2 with hyfrecator. Patient's satisfaction was less than 70%in one patient with laser and 2 with hyfrecator. Both Nd: YAG laser 1064 nm and the hyfrecator 2000 have satisfactory response in treating DPN. More studies are needed to confirm these findings. These two systems should be available in the Ministry of Health and universities hospitals for treating this common condition domestically.

مستخلص (ARABIC ABSTRACT)

مقدمة: البثور الجلدية السوداء (DPN) هي احدي مظاهر تقدم العمر الشائعة عند ذوي البشرة السمراء. : البثور الجلدية السوداء ليس لها اعراض سالبه على الصحة. يطلب المريض العلاج لتحسين المظهر. من الطرق المتبعه فى علاج (DPN) الكحت والتبريد لدرجة التجميد وايضا الكي بالكهرباء .ادخلت حديثا بعض اجهزة الليزر فى علاجها مثل جهاز ال 1064Nd:YAG نانوميتر وجهاز ال pulse dye ليزر.

أهداف الدراسة: تهدف الدراسة لمقارنة فعالية اشعة جهاز ال 1064 Nd:YAG نانوميتر وجهاز ال hyfrecator ٢٠٠٠ فى علاج البثور الجلدية السوداء.

المرضى وكيفية العلاج: هذه دراسة سريرية وصفية. اجريت فى الفترة ما بين ديسمبر ٢٠١٠م الي ابريل ٢٠١١م. شملت الدراسة احدي عشر مريضا من عيادات الامراض الجلدية داخل العاصمة .اجريت عملية الجراحه بالليزر للجانب الايمن من الوجه بمركز علياء الطبي بالخرطوم حيث يوجد جهاز الليزر.بينما اجريت عملية جراحه الجانب الايسر بجهاز ال hyfrecator ٢٠٠٠ بعيادة الدارس الخاصة بالخرطوم بحرى. طبق علاج الليزر باستعمال حامل اليد بأشعة غير متصلة أحادية النبض فترتها ٥ ملي من الثانية بكثافة طاقة تساوي ١٦٨ جول فى الثانية فى بقعة مساحتها ٢.٥ مليمتر . بينما استعمل جهاز ال hyfrecator فى النظام المنخفض استعمال غير متصل بطاقة تراوحت من ٥-٨ واط . كان الهدف من استعمال الطاقة فى الجهازين هو تجلط الاوعية الدموية والصبغة الملونة فى (DPN).أخذت صور للمرضي وايضا موافقتهم المكتوبة . حددت عشرة عناصر لتقييم النتائج واعطي كل عنصر نسبة ١٠%. حسب النتائج بعد مرور ستة اسابيع من العملية . قيمت فقط نتائج السبعة مرضي الذين اكملوا هذه الفترة .

النتائج : نتيجة ممتاز احرزها ثلاثة من المرضي فى اي من الجانبين . نسبة جيد جدا احرزها ثلاثة مرضي فى جانب الليزر واثنين فى جانب hyfrecator . بينما احرزت نتيجة جيد فى مريض واحد فى جانب الليزر واثنين فى جانب hyfrecator .

الاستخلاص: نستخلص من هذه الدراسة ان جهاز الليزر 1064 Nd:YAG نانوميتر وجهاز hyfrecator 2000 يمكن استعمالهما فى علاج البثور الجلدية السوداء (DPN) مع توقع نتائج مقنعة.

التوصية: نوصي بتطبيق هذه الدراسة فى عدد كبير من المرضي وان تعطي فترة زمنية كافية لمتابعة الشفاء.نوصى ايضا بتوفير جهازى ال 1064 Nd:YAG نانوميتر و hyfrecator 2000 بمستشفيات وزارة الصحة والمستشفيات التابعة للجامعات للتوطين علاج هذه الحالة الشائعة بالسودان بدلا من تكبد مشاق تكلفة العلاج بالخارج.