



European
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12th INTERNATIONAL EMLA CONGRESS

IN CONJUNCTION WITH WALT, ELA and CSULM-CLS JEP

LASER PRAGUE 2007

20th - 22nd September 2007



The 12-th International Congress
of the European Medical Laser Association (EMLA)
in conjunction with the World Association of Laser Therapy (WALT),
ELA (European Laser Association),
CSULM-CLS JEP (Czech Society for Use of Laser in Medicine)

Final Program and Book of Abstracts

LASER PRAGUE 2007
Prague, Czech Republic
Thursday 20th – Saturday 22nd September 2007



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for not overheating in the depths. Water must be around the laser tip always. No drilling means patients comfort. Laser means a 'sterile' operation and no need for antibiotics. Laser application in the posterior lower region is limited due to space problems, shortness of the laser tips and lack of guiding systems. Especially in the lower jaw bone preparations are much more time consuming. Bone condensation with hand instruments helps achieving more round cavities and more primer stability in less quality bone. Although the laser is not yet a total replacement for the scalpel and bur, it is already a valuable and useful instrument in all parts of implant surgery.

DECREASE IN THE NUMBER OF ALVEOLAR BONE OSTEOCLASTS AFTER LLLT (650 NM) IN RAT EXPERIMENTAL PERIODONTITIS. IMPLICATIONS OF TISSUE RATIO RANKL/OPG: HISTOMORPHOMETRIC, IMMUNOHISTOCHEMICAL AND ELECTRON MICROSCOPIC OBSERVATIONS

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Introduction: In an attempt to investigate the possibility that LLLT may induce the death of osteoclasts, we examined the alveolar bone of LLLT treated rats.

Material and Methods: A nylon ligature were placed around the cervix of molars and surrounding mucosa was inoculated with *Porphyromonas gingivalis* ATCC 33277 in 1½ week-old male rats (n = 50) for 14 days. Then, the ligature was removed and were treated with LLLT at different wavelengths: 650 nm (CW mode, power density – 10 mW, energy density – 2,5 J/cm²), 875 nm, and 904 nm (1,5 J/cm² array unit (333 Hz; maximum rated output, 300 mW);, respectively 2 weeks (first week – daily, second week – every 48 hours). On day 35, fragments containing alveolar bone were removed and processed for light- and electron microscopy. Sections were decalcified and stained with tartrate-resistant acid phosphatase (TRAP) an osteoclast marker. Quantitative analysis of the number of TRAP-positive per grid was carried out. For detecting apoptosis sections were analyzed by electron microscopy. Similar undecalcified sections were stained by Villanueva method for measuring osteoid. Additionally, periodontal tissue receptor activator of NF-κB ligand (RANKL) and osteoprotegerin (OPG) were estimated.

Results: The number of TRAP-positive osteoclasts per grid of bone surface was significantly reduced in the group LLLT (650 nm) compared with nonligatured and ligatured groups. In addition, in the LLLT (650 nm) group the ultrastructural images revealed shrunken osteoclasts exhibiting nuclei with

conspicuous and tortuous chromatin, typical of 'apoptosis'. Histological Villunueva staining confirmed decreased alveolar bone loss in LLLT (650 nm), compared with ligatured group; moreover, tissue ratio RANKL/OPG was significantly low.

Conclusion: Our results reinforce the idea that LLLT inhibits bone resorption by promoting a reduction in the number of osteoclasts, thus indicating that this reduction may be, at least in part, a consequence of osteoclast apoptosis via decreased RANKL/OPG ratio.

**September 22, 2007, Meeting room 3:
14.00-16.40**

Laser rehabilitation, neurology and cellular effects (3.5)

Chair: G.Brill, G Litscher

PRESENTATION OF RESULTS OBTAINED ON MULTIPLE SCLEROSIS BY THE LASERPONCTURE® TECHNIQUE

Albert Bohbot

Château Gaillard, 33 route du Canal, F18140 La Chapelle Montlinard, Founder, Director of the Laboratoire de recherches sur le Laserponcture®

Introduction: Restricted preliminary study of the results obtained on multiple sclerosis by laserponcture and controlled by MRI.

Five patients including four females and one male.

Material and methods:

Fifth generation of infrared laser ranging from 1 to 30 W/cm² (not mW/cm²) equipped with ten independent laser heads which are computer piloted. (Confidential prototype).

Conception of the prototype: Albert Bohbot; realization of the prototype: ENSAM; funding: Bourgogne Innovation (formerly Bourgogne Réseau). Methodology: laserponcture applied on acupuncture and neo-acupuncture points. (Methodology and theory by Albert Bohbot).

- Patient n°1 (A):
Sex: F; MS diagnosed in July 2001; treatment begun on 7 May 2007; number of sessions: 18.
- Patient n°2 (S):
Sex: F; MS diagnosed in February 2004; treatment begun on 22 March 2006; number of sessions: 12.
- Patient n°3 (C):
Sex: F; MS diagnosed in December 2001; treatment begun on 21 October 2004; number of sessions: 56.
- Patient n°4 (M-C):
Sex: F; MS diagnosed in 1997; treatment begun on 19 February 2007; number of sessions: 10.
- Patient n°5 (R):

Sex: M; MS diagnosed in 1992 (first symptoms appeared in 1977); treatment began on 28 August 2006; number of sessions: 20. Length of each laser acupuncture session: 20 minutes.

Results:

All the patients stated that their condition improved objectively at different levels and degrees:

- walking,
- balance,
- stability,
- control of sphincters.

In 3 patients, the spots observed on the MRIs before laser acupuncture disappeared on the control MRIs after laser acupuncture. Also improvement of sight was noted in one patient. In each case study, the progression of MS seems to have been stabilized.

Conclusions: Laser acupuncture seems to offer a real benefit to persons suffering from MS, whether it is applied in the first years of its diagnostic or several (dozens of) years after it. Its action is all the more justified when therapies like interferon or else do not work anymore because this therapy has no side effect reported apart from a fatigue that can be easily recovered from.

This restricted preliminary study confirms the observations made on persons suffering from spinal cord injuries who recover even with a complete injury (ASIA A). See our website for more information www.laseracupuncture.eu.

Nota: the "standard" frequency is based on five sessions every eight weeks but, given that the technique is applied in a private structure and not within a university context, it depended on the person's availability. Thus the notion of standard is not necessarily pertinent with laser acupuncture to obtain results.

CASE-STUDY: COLITIS ULCEROSA, MAN, 53 YEARS OLD, TREATED WITH LASER IRRADIATION AND ELECTRICITY (MSF-KUNTOUTUS) ON ACUPUNCTURE POINTS

Fors, Annika

Laserakupunktio Annika, Teerijärvi, Finland

Introduction: Ulcerative colitis is a disease that causes inflammation and ulcers in the lining of the rectum and colon. Ulcers form where inflammation has killed the cells that usually line the colon, then bleed and produce pus. People with ulcerative colitis have abnormalities of the immune system. Changes in immune system function triggers inflammation in other parts of the body also often causing following symptoms:

Eye problems or pain, joint problems, neck or lower back pain, Skin rashes, liver and kidney problems. Laser and laser acupuncture have been used to treat colitis (Dubikín, 1999, Zhen 1987) but these mainly concentrated on the direct treatment of the intestines,

whereas this case study presents a treatment of the entire immune system with electrolaser acupuncture. This presentation is a case-study of a male, born 1954, with a diagnosis of colitis ulcerosa for 20 years. Condition remained under control for many years with the aid of medication (Salazopyrin), but for the last 2-3 years colitis had been increasingly worse with symptoms as flatulence and pain in joints, especially tennis elbow type pain and dry skin in hands and eczema on scalp and in the ears. The patient has diverticuli in the large intestine, which increase the risk of inflammation. Treatment started 29.5.06. He has been stressed because of the work during the last year and has been eating unhealthily. I chose this case-study because it is a good example of the influence of Msf-rehabilitation, laser and electricity treatment.

Methods: Equipment used was ELAPS electrolaser (EMRED) with red electrolaser 633 nm, 5mW output, spot size 0.8mm or 2mm according to probe chosen (ear or body-point probe), Blue electro-LED pen at 455 nm and blue LED cluster at 470 nm. Twelve treatments with intervals of 1-3 months were carried out. In the treatments, immunological points, intestine points, liver points, and spleen points were used. Acupuncture points used were Sp 6, St 36, LI 4, LI 11, Liv 3, UB 62, UB 60, P 6, Liv 14, UB 17, UB 18, Sp 10, St 37, Lu 7, Sp 2, UB 11, St 37.

Red laser and blue LED as well as TENS type AcuStim-apparatus (EMRED) for electrodes have been used on acupuncture points. In addition local blue light irradiation for immunological functions and pain in elbow was used.

Results and conclusions: After three treatments pain in the right elbow was much better, pain only in irritation and harder work. The patient had found a correlation between elbow pain the condition of the large intestine and had used as a marker for his condition. In January 2007 the condition of the large intestine was controlled by colonoscopy, and was found to be in good condition. The patient has not had any symptoms and has no longer needed to use medication. One problem is overweight and high cholesterol-level. He knows that he eats too heavy food and too much, but has found it hard to make a change. However due to the change in his condition he has been able to also now change his diet to more healthy food.

Result of the Msf-treatments of colitis ulcerosa in this case-study was successful. The patient does not need to use medicines. Because of stress and sometimes unhealthy food it seems to be necessary to continue with treatments with intervals of 2-3 months.

EFFECTS OF BLUE LIGHT WAVELENGTH 445 NM ON MORTON'S NEURINOMA

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