TREATMENT OF SOME CHVONIC DISEASES IN IRAQI PATIENTS USING LASER ACUPUNCTURE FOR [+]

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Abstract

55 Iraqi patients suffering from different diseases were used in this study which was carried out in the Traditional Chinese Medicine Department-Neurosurgery Hospital , in Baghdad for the period from 1-7 to 1-10-1998.

The patients were classified in to four groups depending on the diseases they suffered from, most of the patients were females who form about 63.63% of the total number of the patients while the males form just 36.36 % of the patients, also the patients had different ages beginning from 27 up to 74 years.

Points used for Laser Acupuncture were the same, which is used in the Asthma and Allergic Rhinitis.

Classic Traditional Chinese Medicine using Ga.Al.As. diode Laser (904nm) with power(1mW) and a time of (1min) for each point. Laser Acupuncture which means stimulating selected acupoints by Low Level Laser is a painless, easy and cheap procedure which can be accepted by even the apprehensive patients, it is useful as a reliever in cases with chronic pain including Migraine pain, Low Back pain, most of these patients reduced drug intake, also it is useful to decrease or stop drug intake especially steroids in cases of Urticaria.

المستخلص

(٥٥) مواطناً عراقياً كانوا يعانون من حالات مرضية مختلفة خضعوا لهذه الدراسة التي جرت في وحدة الطب الصيني. مستشفى جراحة الجملة العصبية-بغداد للفترة من ١/١٠/١٩٩٨ - ١/٧.

تم تقسيم المرضى إلى أربع مجاميع اعتماداً على الحالة المرضية التي يعانون منها، معظم المرضى كانوا من الإناث اذ بلغت نسبتهن ٦٣,٦٣% في حين ان نسبة الذكور لم تتجاوز ٣٦,٣٦ % فقط وأيضاً فإن أعمار المرضى كانت مختلفة وتراوحت بين ٢٧ و ٧٤عاماً.

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النقاط التي استخدمت للوخز بالليزر هي نفسها التي تستخدم للوخز بالابر ولكن الفرق هو استخدام ليزر الصمام الثنائي بطول موجي (٩٠٤نانومتر) وقوة (١ملي واط) ولمدة (دقيقة واحدة فقط) لكل نقطة.

الوخز بالليزر الذي يعني تحفيز نقاط خاصة بالليزرات الواطئة الطاقة يمكن إجراءه بسهولة ودون ألم وبتكاليف قليلة ويمكن تقبلها من قبل المرضى الذين يعانون من فرط الحساسية وهي تستخدم للتخلص من الألم في الأمراض المزمنة التي تشمل (آلام الشقيقة، آلام اسفل الظهر وعرق النسا) فقد بدأ الكثير من المرضى بتقليل تناول العقاقير فيما كان الوخز بالليزر مجدياً في التقليل أو الاقلاع عن تناول العقاقير وخاصة الستيرودات في حالات الحكة، الربو والتهاب الأنف الأرجي.

Introduction

Acupuncture has become increasingly accepted by the medical profession world wide to a degree that the world Health Organization (WHO) had listed (44) diseases that lend themselves to acupuncture treatment[1].

On (1973) laser light of low intensity was first applied to acupuncture points by (Ploog) while it was introduced to the every day practice in the end of (1970`s),[2].

Low level laser can be directed toward the target tissue using powers measured in milliwattes and this technique is used successfully in laser Acupuncture in both human and animals and the main lasers used in each technique are:- (He-Ne 632.8nm), (Ga. Al. As diode 820-904nm),(ND-YAG 1046nm)&(CO_2 laser10600),[3].

Well designed studies on the effect of laser Acupuncture suggest its successful application in the treatment of pains associated with knee Osteoarthritis, [4] also it is used for treatment of pains associated with carpel tunnel syndrome which failed standard medical and surgical treatments and suggested decrease, inflammatory reactions with potential cost saving,[5].

The effect of Laser Acupuncture on muscle blood flow and main artrial pressure was studied by (Noguchi, et al.), who suggested significant increase in these measurements post treatment, [6]. Laser Acupuncture has also proved to be a successful alternative to pharmacological prophylaxis of postoperative vomiting. [7] Furthermore it was used in children undergoing strabismus surgery and significant decrease in the incidence of vomiting [8]has been naticed.

Since Laser Acupuncture has not been applied clinically before in our country, this study is designed as a preliminary trial to examine carefully this type of treatment and the possibility of expanding its use to involve all the disease cases which are treated by the Traditional Chinese Acupuncture.

Materials and Method

Diagnosis in Traditional Chinese Medicine depends upon (clinical signs and symptoms), tongue and pulse[9], in our study we depend on the (clinical signs and symptoms) and the tongue mostly and to a less extent we depend on pulse diagnosis. Laser used is Ga.Al.As*

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(904nm) Low Level Diode laser with maximum power of (35mW) continuous wave using a light guide cable covered with a protective shell to transmit the beam of the laser to the target acupoints.

Selection of the acupoints is built on the theories of meridians and collaterals : corresponding meridian points selection is a major method but it is known that selection of the points is actually divided into: selection of the local points, selection of the distal points, selection of the left-right points and the selection of the symptomatic points. Points selected for Laser Acupuncture is in the same manner carried out with the Traditional Chinese Medicine Acupuncture with 10-20 acupoints irradiated for (1min) for each point, for example: we select (Ex.1) as a local point for headache and the(B.40) as a distal point for Sciatica while we use the (L,1&II)as a symptomatic point for Urticaria.L

Treatment is given in sessions and each (8-12) sessions constitute one cours for patients with sever painful diseases daily while those with less painful diseases are treated (2-3 times/week), some patients need more than one course with an interval of (7days) between each course and the other, [10].

Patients and Data Collection

The patient groups underwent the study and their related data are seen in the table below.

Table (1) : Patients underwent the study and the related data

No.	Groups	No. of patients	Age	sex	Occupation	Disease	No. of sessions
1-	Chronic knee pain	1	28	F	Householder	Rheumatoid changes	14
		2	54	F	Householder	Rheumatoid changes	24
		3	60	M	Worker	Degenerative O.A	12
		4	65	F	Householder	Degenerative O.A	18
		5	50	F	Householder	Degenerative O.A	13
		6	59	F	Householder	Degenerative O.A	19
		7	50	F	Householder	Rheumatoid changes	14
		8	43	F	Householder	Degenerative O.A	15
		9	64	M	worker	Degenerative O.A	14
		10	60	F	Householder	Degenerative O.A	21
		11	65	M	Worker	Rheumatoid changes	20
		12	72	M	Gardener	Degenerative O.A	11 Interrupted
2-	Allergy	1	34	F	Householder	Bronchial Asthma	17
		2	27	F	Nurse	Bronchial Asthma	25
		3	70	M	Merchant	Allergic Rhinitis	11
		4	27	F	Teacher	Allergic Rhinitis	10
		5	45	M	Clerk	Allergic Rhinitis	13
		6	45	F	Householder	Urticaria	12
		7	67	M	Post officer	Urticaria	19
		8	54	F	Householder	Urticaria	22
		9	52	F	Clerk	Urticaria	25
		10	49	F	Teacher	Bronchial Asthma	16
		11	38	M	Policeman	Allergic Rhinitis	19

3-	**Migraine And Facial Pain**	1	37	F	Teacher	Migraine	15
		2	46	M	Worker	Migraine	10
		3	30	F	Worker	Migraine	11
		4	39	F	Worker	Migraine	13
		5	42	M	Teacher	Migraine	21 interrupted
		6	35	M	Policeman	Migraine	21 interrupted
		7	44	M	farmer	Migraine	19
		8	61	M	Guard	Trigeminal Pain	10
		9	73	F	Householder	Trigeminal Pain	12
		10	53	F	Householder	Migraine	15
4-	**Chronic Low Back Pain And Sciatic Pain**	1	45	F	Householder	Musculoskeleta Pain	9interrupted
		2	40	F	Householder	Musculoskeletal Pain	12interrupted
		3	65	F	Householder	Neurogenic Pain	28
		4	42	M	Worker	Musculoskeletal Pain	6
		5	55	M	Farmer	Musculoskeletal Pain	17
		6	45	F	School's	Musculoskeletal Pain	12
		7	39	F	Clerk in a private office	Musculoskeletal Pain	10
		8	27	F	Post Graduate Student	Musculoskeletal Pain	15
		9	46	F	Shopkeeper	Musculoskeletal Pain	22
		10	55	M	House Painter	Neurogenic Pain	12
		11	55	F	Householder	Musculoskeletal Pain	10
		12	43	F	Householder	Musculoskeletal Pain	9
		13	32	M	Teacher	Musculoskeletal Pain	11
		14	44	M	House Agent	Musculoskeletal Pain	15interrupted
		15	47	F	Primary School's Headmaster	Musculoskeletal Pain	17
		16	41	F	Householder	Musculoskeletal Pain	12
		17	52	F	Householder	Musculoskeletal Pain	21
		18	61	M	Guard	Neurogenic Pain	13
		19	33	F	Householder	Musculoskeletal Pain	9
		20	42	M	Farmer	Musculoskeletal Pain	20
		21	35	F	Teacher	Musculoskeletal Pain	18
		22	37	F	House keeper	Musculoskeletal Pain	17 interrupted

Results

The results of the treatment sessions for the different diseases are given in the following table.

Table (2): Results of the treatment sessions for the different disease cases.

No	Group	No .of Patients	Outcome of treatment sessions
1-	**Chronic Knee Pain**	1	Good response , decrease drug intake.
		2	No pain , stop taking analgesic.
		3	No pain , stop drug intake.
		4	Decrease pain with little analgesics.

		5	No pain stop taking analgesics.
		6	Decrease pain and decrease drug intake.
		7	Little pain with little anti-inflammatory drugs.
		8	Decrease pain and stop drugs intake.
		9	Stop taking analgesics and anti-inflammatory drugs.
		10	Good response and decrease in analgesics.
		11	Decrease in pain and drug intake.
		12	Just little response with decrease in drug intake.
2-	**Allergy**	1	Little response, decrease in drug intake (cortisones).
		2	Little response.
		3	Significant response (improvement), stop taking anti- histamine.
		4	Significant response (improvement), stop taking anti- histamine
		5	Little improvement with decrease in drug intake.
		6	Decrease in itching and anti histaminic drugs.
		7	Decrease in itching and anti histaminic drugs.
		8	Decrease in itching and anti histaminic drugs.
		9	Decrease in itching and anti histaminic drugs.
		10	Good response , decrease in drug intake.
		11	Significant response with just little drug intake.
3-	**Migrain and Facial Pain**	1	Decrease in attack duration and drug intake.
		2	Decrease in attack duration.
		3	Decrease in frequency of attacks.
		4	Decrease in frequency of attacks.
		5	Decrease in severity of attacks and drug intake (good response).
		6	Decrease in attack frequency.
		7	Decrease in attack frequency and attack severity.
		8	Decrease in attack severity and decrease in drug intake.
		9	Decrease in attack severity and decrease in drug intake.
		10	Decrease in frequency of attack of headache.
4	**Chronic Low Back Pain And Sciatica Pain**	1	Just little decrease in pain , still take some drugs.
		2	Decrease in pain and drug intake.
		3	Little relief of pain with decrease in drug intake.
		4	Feel relief of pain especially at night.
		5	No pain felt but take drugs.
		6	Decreae in pain response with no drug intake.
		7	Little response with no drug intake.
		8	Relief of pain and no drug intake.
		9	Mild pains.
		10	Relief of pain.
		11	Decrease in drug intake.
		12	Decrease in drug intake.
		13	Decrease in pain but still take drugs.
		14	No. relief of pain.
		15	Decrease in pain but still need drugs.
		16	Decrease in drug intake.
		17	No need for any drug
		18	Decrease in drug intake.
		19	Relief of pain with no drug intake.
		20	Decrease in pain and little response to treatment.
		21	Little response to treatment without drugs.
		22	Just little response due to interruption of the treatment.

The results were evaluated statistically using (F test) and (LSD test) looking for significant comparison, [11], as shown in Table.3 in which the response of each disease group is classified in to four degrees (High, Good, Moderate and Low response).

1- High response patients are those who show significant response, with no pain and drug intake.
2-Good response patients are those who show decrease in pain or decrease in attack (severity and frequency) or those who need just little drugs.
3-Moderate response patients are those who show just little response and just little decrease in drug intake.
4- Low response patients are those who show no response. The results of the statistical evaluation reveal that laser acupuncture gives significant improvement in the treatment of the diseases involved in this study $P< (0.05)$.

Table .(3): Statistical evaluation of the results for the different disease cases**.**

No	Groups	Degree of response			
		High	Good	Moderate	Low
1-	Chronic Knee Pain	4	7	1	-
2-	Allergy	2	5	2	-
3-	Migraine and Facial Pain	1	10	1	-
4-	Chronic Low Back Pain And Sciatica Pain	5	9	7	1

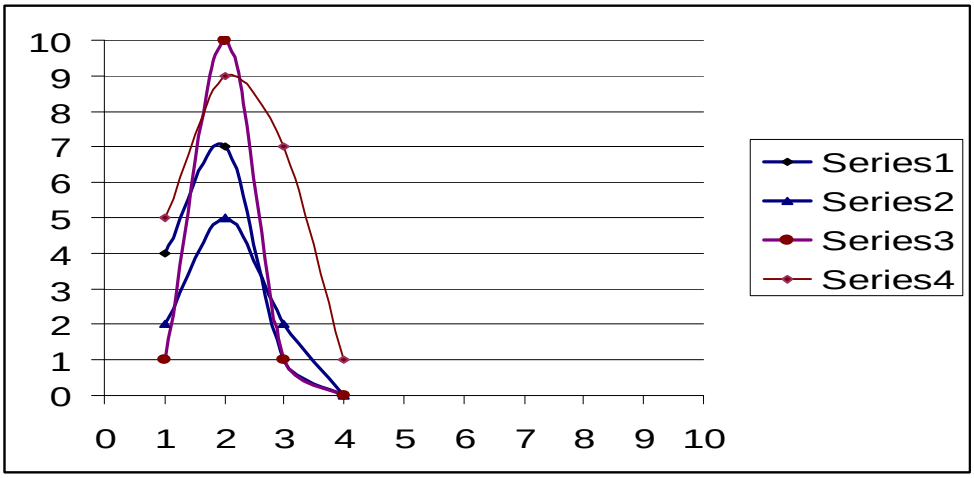

Fig . (1) : The responses of the different disease groups to the Laser acupuncture.

The main indication for the Laser Acupuncture is the skin diseases and the chronic pain conditions but minor syndromes and mental disorders are also treated by this technique especially in children and over sensitive patients. Laser Acupuncture has clear advantages in that it is painless, asepsis is assured . The laser handle should not touch the skin surface during irradiation but in many acute disorders however the action of the laser irradiation has an inadequate effect , therefore, the Laser Acupuncture is limited to the chronic diseases.[2].

In vitro studies have shown increase in production of prostaglandins E&F following L.L.L.T., but after few days PGE_2 decrease while PGF_2 a continue to rise, these products are known to work at the cellular membrane levels and act as synaptic modulator in different stimuli transfer, also it has been demonstrated there is increased ienkephalin and endorphin, these products i.e.: enkephalins, methione enkephalin and leucine enkephalin are peptides with opiate-like activity isolated in(1975 by John Hughes) from pig brains ; they are abundantly present in certain nerve terminals and it is thought that their function is concerned with sensory interpretation of pain stimuli, the endorphins are an interesting series of longer peptide antonarcotic compounds whose name comes from endogenous morphine. The endorphins are believed to be pituitary regulated and their release is triggered by pain stimuli (in addition to L.L.L.T.) whereupon they proceed to the cerebral cortex and (Key in) to pain receptor sites therapy transfer of pain stimulus is blocked, their natural antagonist is one of the prostaglandins which appears seemingly in response to the increased endorphin production and which speeds up synaptic communication of pain stimuli so that the receptor sites are already occupied by their rightful owners before the endorphins get there, it could be suggested that the L.L.L.T. has a double action, firstly stimulating endorphin production and secondly inhibiting the appropriate prostaglandin synthesis,[3] . This explains how L .L.L.T. works against chronic pains like Knee Pain, Low Back Pain and Sciatica . In addition the possible mechanism for effectiveness in addition includes increased inflammation and temporary increase in serotonin.

L.L.L.T. is effective in treatment of Rheumatic Pain, before treatment; the patients were asked to perform standard measurable motions such as flexion, extension and gripping then after irradiation of specific acupoints as were a starting point the patients asked were to perform the same motions before and the results were noted, the size of the affected joints decreased, edematous fluids reabsorbed and the motions were restored without pain,[3].

Osteoarthritis occurs due to degeneration of joint cartilage coupled with the hypertrophy of the bone at the joint, L.L.L.T. irradiation of the acupoints bilaterally coupled with direct irradiation of the just achieved pain attenuation in addition to the balance between cartilage regeneration and removal of the bone hypertrophy, and when the patients were asked to perform standard motions, the improvement in the measurement was significant. It was found that patients who suffered from sever cases of pain require longer times with delivered laser therapy to obtain significant pain relief while those with mild to moderate pain require only short treatment and thus different pain syndromes require different durations of treatment, [3].

The nervous system can be divided into central, peripheral and autonomic parts and the laser involves the sympathetic and parasympathetic systems, by acting on the peripheral system the other two can be activated from the cranial to spinal roots or irradiating the anatomic pathway of the target nerve from proximal to distal, irradiation usually associated with a synaptic reflex actually inhibits the reflex action while increasing the speed of message transmission and this suggests that L.L.L.T. mediates the synaptic gate in some manner perhaps involving some of the prostaglandins so that the message proceeds direct to the brain without causing the usual involuntary muscular response and this explains how L.L.L.T. acts on the chronic pains of (Sciatica and Low Back Pain) of both musculoskeletal and neurogenic origins,[3].

L.L.L.T. has succeeded in the relief of Pain Syndrome and Itching, accelerating Epithelization in patients with skin disease and that the elastic smooth structure is restored to the patients skin while the excessive dryness and the scaling disappear. On the other hand those with Bronchial Asthma had improvement of their skin condition and decrease in the number and duration of the asthmatic attacks, [12], however we used the L.L.L.T. for treatment of Urticaria, Rhinitis and Bronchial Asthma and got good results, it brought rapid relief and the effect in some cases was instantaneous while remote healing of unirradiated areas following the irradiation of one site is common, most of the patients decreased drug intake.

Migraine Pain is a debilitating one with accompanying nausea and vertigo in extreme cases and has its origins in the vascular system, all the intervertebral nerves, the carotid artery and the cranial nerves feed and from and the brain stem (the central portion of the brain) so for treating the Migraine we have to influence this essential area by irradiating all the acupoints which will lead to stimulation of the vascular system of the brain stem, and after this the local acupoints is used to remove the pain of both Migraine and Trigeminal neuralgia.[3].

Conclusions

Laser Acupuncture which means stimulating selected acupoints by Low Level Laser is a painless, easy a procedure and can be accepted by oversensitive patients, It is useful for relief of pains especially chronic ones including (knee Pain, Sciatica, Low Back Pain and Migraine) . Most of the patients reduce the drug intake, it is also useful to decrease or stop drug intake especially steroids in cases of Urticaria, Allergic rhinitis and Asthma. No significant variations are observed in the responses of the males when compared with those of the females .

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