

ACUPUNCTURE IN A PAIN CLINIC*

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For lumbago, acupuncture is, in acute cases, the most efficient treatment.

—*Sir William Osler*¹

ACUPUNCTURE as a medical treatment has been known since the existence of a written history in Eastern Asia. Although widely used in China and other countries of Eastern Asia, Western Medicine has been unable to comprehend this ancient art of healing and it was never accepted by the mainstream of medicine, nor for that matter, by the Western oriented medical system in China. However, the present Government in China has actively promoted the inclusion of acupuncture into its health care system. The discovery in 1958 that a state of analgesia, suitable for major operations, could be induced by acupuncture has astonished the Western Medical World.² Reports of a large number of surgical cases operated under acupuncture anaesthesia with a success rate up to 90 per cent have now sufficiently substantiated that the effectiveness of acupuncture can no longer be doubted and that it has to be examined seriously.

The meeting of the two authors, one of whom (CYL) had been instructed in acupuncture as a family tradition, afforded the opportunity to explore the use of acupuncture at the Pain Clinic, Victoria Hospital, London, Ontario.

We decided to conduct an exploratory trial with acupuncture in patients with chronic pain syndromes referred to this clinic. With this approach, the senior author (WES) hoped to become acquainted with the acupuncturist's approach to diagnosis and treatment and to know how acupuncture is actually performed. In addition it afforded an opportunity to observe the effects of acupuncture clinically, to find out whether this form of treatment is acceptable to our patients, and, from the collection of a series of cases, to obtain an indication in what conditions acupuncture might be of therapeutic benefit. In our opinion such an exploratory trial was an essential preliminary step to the setting up of intelligently conceived controlled trials later on.

METHOD

This exploratory trial with acupuncture was undertaken with permission of the Medical Advisory Committee and the Trust of Victoria Hospital and approved by the Research Committee of the University of Western Ontario. Patients

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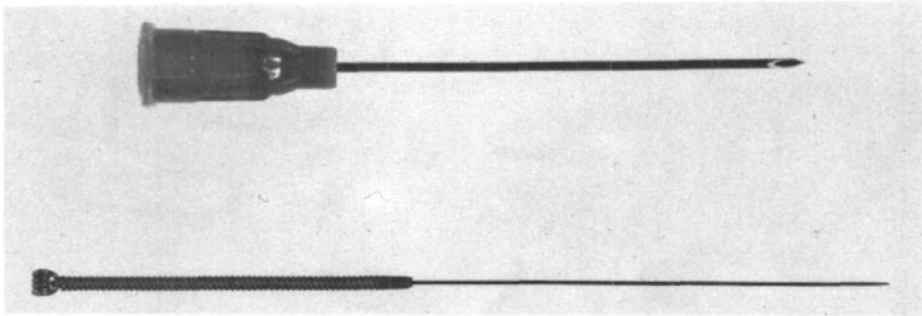


FIGURE 1. Acupuncture needle and disposable #22 cannula. The solid stainless steel needles are 1 cm to 10 cm in length, depending on the location of acupuncture points.

referred to the Pain Clinic were given an explanation of the procedure and asked to sign a specially prepared consent.

All patients accepted had chronic pain conditions not associated with malignancy, had been previously examined by specialists and had not responded satisfactorily to conventional forms of therapy. Treatment consisted of the insertion of fine solid stainless steel needles (Figure 1) into the skin, under the conditions of sterility generally observed for hypodermic injections, at the sites of acupuncture points determined from modern acupuncture charts⁴ (Figure 2). The needles were advanced to a depth sufficient to produce either a feeling of heavy pressure or a tingling sensation similar to a mild electrical shock radiating towards the periphery. Once this sensation, characteristic of the so-called acupuncture points, was felt by the patient, the needle was kept in that position for 10 to 30 minutes and then removed (Figure 3). The needles were not manipulated in any other way.

The number of needles and the choice of points were determined by the acupuncturist (CYL). The senior author then tried on the occasion of the next treatment to elicit the same sensation by inserting the needles into the points used in the first treatment. Since the sensation is quite characteristic, patients were able to indicate whether the needle was properly placed. While this approach applied mainly to acupuncture points inside the dermatomes involved in the pain syndrome, other points remote from the area of pain were stimulated by a quick insertion of the needle and withdrawal after the peculiar sensation described above had been elicited. Such points were chosen by the acupuncturist on the basis of a pulse diagnosis^{5,6} used in traditional acupuncture medicine.*

Treatments were carried out weekly or bi-weekly according to the time allotted to us at the outpatient clinic and repeated until the patient's condition was satisfactory or until no further progress occurred. Assessment of the effect

*The radial pulse is palpated with three fingers at both wrists, using light and heavy pressure. The quality of the pulse wave felt under each finger is related to the function of an organ, which if found not normal is then treated, through selected acupuncture points related to such organs. This widely used approach to diagnosis by traditional acupuncturists seems irrational to the Western physician; however, serious students of acupuncture in Europe are using it and the author (WES) has occasionally seen some startling discoveries made by this method.

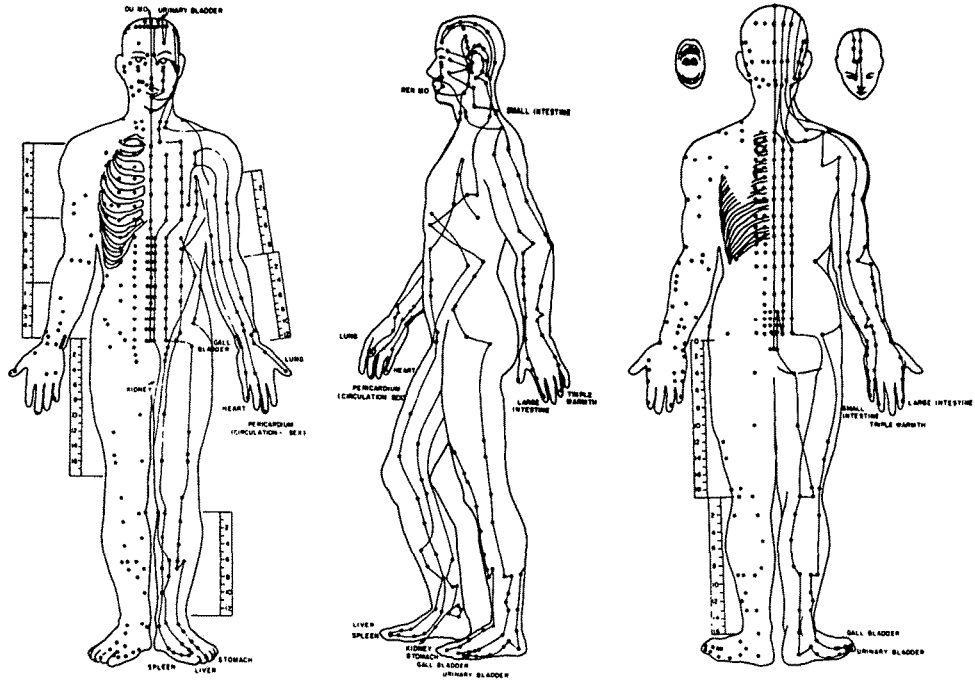


FIGURE 2. Acupuncture charts used to record treatments – redrawn from modern Chinese charts (4).

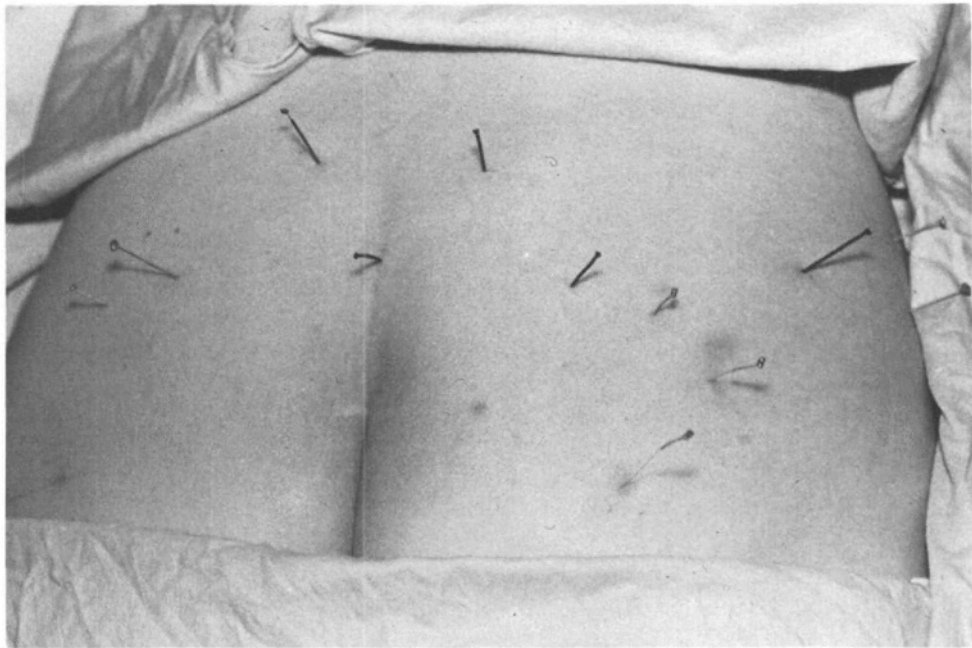


FIGURE 3. Acupuncture needles placed into points of lower back and buttocks to treat pain after repeated hip surgery.

TABLE I
CHRONIC PAIN PROBLEMS TREATED WITH ACUPUNCTURE

Diagnosis	Number of patients	Duration of pain in years (average & range)	average number of treatments	Results		
				0	1	2 3*
A. Musculo-Skeletal Disorders						
Whiplash Syndrome	9	2 (0.5-8)	10	0	1	4 4
Non-Traumatic Cervical Pain Syndromes	4	3 (1-8)	10	0	0	2 2
Muscular Pain—Trunk	3	3 (1-6)	8	0	0	2 1
Scoliosis with Pain	2	3 (2+4)	11	0	2	0 2
Osteoarthritis of Spine	3	4 (3-5)	13	0	0	1 0
Joints and Tendons	6	3 (0.5-6)	9	0	1	1 4
	27			0	4	10 13
B. Back Pain						
Low Back and Leg Pain	14	4 (0.5-15)	10	1	0	5 8
No Surgery	12			1	2	6 3
Low Back and Leg Pain	26	3 (2-7)	16	2	2	11 11
Persistent after Surg.						
C. Neuralgias						
Atypical Facial Neuralgias	12	5 (1-10)	11	1	6	3 2
Tic Douloureux	1	6		0	0	1 0
Post Herpetic Neuralgia	9	2 (0.5-6)	20	1	3	4 1
Post Traumatic Dystrophy	6	3 (2-4)	9	1	3	2 0
	28			3	12	10 3
D. Headaches						
Chronic Headaches	9	6 (2-20)	11	0	3	3 3
Migraine	5	8 (6-10)	9	0	0	2 3
	14			0	3	5 6
E. Spinal Cord Injury						
Post Traumatic	2	2 + 10	12	0	1	1 0
Chemical Arachnoiditis (Spinal Anaesthesia)	1	2	20	0	0	0 1
Haemangioma (Postoperative)	1	6	10	0	0	1 0
	4			0	1	2 1
F. Miscellaneous Pain Syndromes						
Rectal and Perineal Pain	4	2 (1-5)	16	1	2	1 0
Coccygeal Pain	1	6	13	0	0	1 0
Scleroderma with Pain	1	10	9	0	0	1 0
Undiagnosed Abdominal Pain	4	3 (1-5)	17	0	2	2 0
Pain after Total Hip Replacement	2	2	10	0	1	1 0
	12			1	5	6 0

*0 denotes failure, 1 transient improvement, 2 improvement and 3 marked improvement.

of treatment was based on the patient's own report, on functional changes observed, and on the requirements for pain-relieving drugs.

RESULTS

One hundred and eleven patients were included in this trial (Table I). An attempt was made to grade the results of this treatment in the following way:

Failure

No noticeable response to at least six treatments.

Transient Improvement

The treatment markedly reduced or abolished existing pain but the pain returned unchanged within 1 to 3 days and this pattern was not changed with subsequent treatments.

Improvement

Pain definitely diminished; significant reduction in analgesic drug requirements; activity and well-being improved; able to sleep restfully without or with only minimal sedation.

Marked Improvement

Patient completely pain-free or with minimal residual discomfort; analgesics no longer required; able to carry out usual activities.

Section (A) A variety of *musculo-skeletal disorders* treated are listed in Section A together with the duration of their condition and the average number of treatments. Thirteen of these 27 patients were considered markedly improved at the end of the course of treatment and another 10 had worthwhile benefit. Pain attributed to osteoarthritis appeared to improve with acupuncture while root pain associated with scoliosis responded only with transient improvement. One "frozen" shoulder, which had not responded to physiotherapy and cortisone injections became completely mobile with eight acupuncture treatments.

Section (B) The results obtained with 26 patients with *low back and sciatic pain* are shown in Section B. In 11 of these, marked improvement was observed. It should be noted, that in 24 of these patients complete freedom from discomfort was obtained at some time or other in the course of treatment.

Section (C) Twenty-seven patients with a variety of *neuralgias* (Section C) were treated. In 24 the pain could be transiently suppressed with acupuncture, the effect lasting from a few hours to two to three days. However, only three of these patients were free of pain at the time of discharge from the Clinic. Included in this group are 6 patients with post traumatic dystrophy, i.e., with hypersensitive painful scars combined with dystrophic skin changes following trauma and operation; one patient had typical causalgia. No marked improvement was seen in this type of disorder.

Section (D) Fourteen patients were treated for *chronic headache* and five of these had typical *migraine* (Section D). Six patients were free of symptoms at

the end of treatment and five experienced worthwhile relief. In all cases it was possible to relieve an existing headache.

Section (E) Pain syndromes associated with spinal cord trauma or pathology was treated in four cases. One patient with arachnoiditis after spinal anaesthesia who had previously had a rhizotomy performed to obtain partial relief, had remarkable improvement with acupuncture.

Section (F) Section F, Table I lists 12 patients with *various pain syndromes*. None of these patients could be completely relieved although six patients felt that the improvement obtained was worthwhile.

In order to determine long-term effects of acupuncture, a follow-up of these patients is presently underway.

DISCUSSION

The most surprising effect of acupuncture was the observation that pain relief could be obtained in 94 per cent of our cases, in most instances following one treatment of insertion of acupuncture needles. Only six patients failed to show this effect, even with repeated treatments. Although some of the acupuncture points used were based on Chinese theories, the majority of needles were inserted into points within the dermatomes involved in the patient's pain pattern. The points used in the treatment of a patient with back pain and left-sided sciatica (Figure 4) may serve as an example. This would suggest that there may be a relation between acupuncture and various types of "counter irritation" used in the treatment of musculo-skeletal disorders, including massage and the application of heat or cold.

In addition to the pain relief, there was often a noticeable facilitation of neuromuscular function immediately following the acupuncture treatment; this was illustrated in a rather dramatic form by a patient with osteoarthritis of the spine, who came to the Clinic on crutches and was able to walk out without any assistance. This functional improvement was also seen in patients incapacitated by neurological disorders not causing pain and therefore it is thought not to be the result merely of the pain relief obtained from acupuncture.

The mode of action of acupuncture has not been satisfactorily explained. The gate theory by Melzack and Wall⁷ has been frequently cited in conjunction with the analgesic effect of acupuncture. The successful suppression of intractable pain by the implantation of electrodes into the dorsal column of the spinal cord⁸ appears to be related to acupuncture in the sense, that a stimulus introduced either into the spinal cord or a peripheral nerve ending will alter the response to pain. From clinical observations we would like to conclude that we are dealing with a neurophysiological phenomenon.⁹ Although those not familiar with acupuncture often ascribe its effects loosely to hypnosis, there appears to be no good evidence for this assumption except that both can produce pain relief by a mechanism as yet not understood.

The introduction of a needle to an acupuncture point produces a rather typical sensation of either heavy pressure or a more or less strong electrical tingling. A patient who has experienced this sensation during his first treatment will be quite

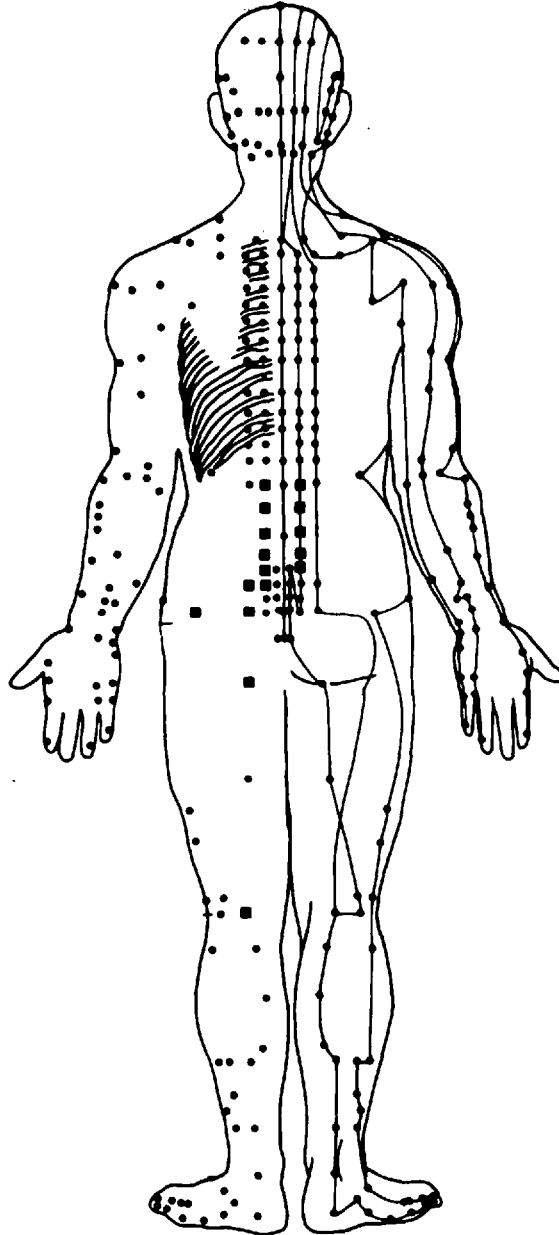


FIGURE 4. Acupuncture points used in treatment for low back and sciatic pain.

aware whether needles have been placed "correctly" at subsequent treatments. The skin puncture itself is usually not painful. Although a treatment can be quite uncomfortable, only 10 patients did not return after the first treatment and they were therefore not included in this review. All other patients were sufficiently motivated to obtain relief and grateful that something was done for them, that they did not resent the discomfort involved.

Our observations would indicate that acupuncture could be useful in the management of musculo-skeletal disorders, including the syndromes of low back and sciatic pain, in chronic headache and in some of the neuralgias. Regardless of theoretical considerations, the effect of acupuncture in these conditions appears to be reproducible to a sufficient degree, that it would be clinically usable.

No complications of consequence were seen: occasionally small hematomata were noted at the puncture sites; four patients in whom needles had been inserted near major nerve trunks complained of paraesthesias which subsided without further therapy. There were no infections related to the puncture sites.

The technical aspect of insertion of acupuncture needles is not difficult to learn. Treatments are tedious, pains-taking and time-consuming and require, even in skilled hands, up to 30 minutes. The art of choosing acupuncture points for treatment requires a long study and much experience; if acupuncture is found to be useful as a form of therapy in our medical system, much thought and consideration will have to be given to this aspect.

SUMMARY

Acupuncture has been used in a pain clinic in various conditions of chronic pain not associated with malignancy. In a series of 111 patients who had not responded to conventional therapy, 34 showed marked improvement and a worthwhile effect was observed in another 44 patients. Patients were treated once or twice weekly for an average of ten treatments.

Acupuncture produced an analgesic effect in 94 per cent of the cases. Sometimes a marked facilitation of neuromuscular function was also observed. On the basis of the material presented, painful musculo-skeletal disorders appear to respond satisfactorily to acupuncture and some response can also be expected in chronic headaches and in some neuralgias. The extent of usefulness of acupuncture for the management of these conditions should be established in controlled clinical studies.

RÉSUMÉ

Son emploi dans une clinique douleur

On a employé l'acupuncture pour le traitement de syndromes douloureux chroniques, d'origine non cancéreuse.

Dans un groupe de 111 malades, prouvés réfractaires au traitement conventionnel, l'acupuncture a amené une amélioration marquée (34 patients) ou notable (44 patients).

On a pu observer un effet analgésique dans 94 pour cent des cas et parfois un effet de récupération de la fonction neuro-musculaire.

En moyenne chaque malade a subi 10 séances de traitement à raison de une à deux par semaine.

A partir de l'expérience acquise, on peut dire que des syndromes musculo-squelettiques douloureux semblent répondre favorablement à l'acupuncture. Il en serait de même pour des céphalées chroniques et quelques névralgies.

L'utilité de l'acupuncture dans le traitement de ces états douloureux mérite

d'être étudiée de façon scientifiquement contrôlée et son champ d'action précisément définie.

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