

ICD-10 Code	Research Question	Intervention	Reference	Reason for Exclusion	Source
O	Changes of hemoglobin by moxibustion before exercise.	moxibustion	Higuchi M. Changes of hemoglobin by moxibustion before exercise. Effect of moxibustion on DOMS (delayed onset muscle soreness) <i>Toyo Igaku (Oriental Medicine)</i> 2009; 15(3): 54-8. (in Japanese).	3	I
O	Clinical effectiveness of acupuncture applied to strongly reactive points	acupuncture	Watanabe K, Shinohara S. Clinical effectiveness of acupuncture applied to strongly reactive points: randomized controlled trial regarding clinical efficacy. <i>Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)</i> . 2010; 60(1): 74-83 (in Japanese with English abstract).	3	I
O	Effectiveness of low frequency acupuncture combined with body sonic pad therapy.	electro-acupuncture	Kawachi A, Kadosaki K, Shinohara R, et al. Effectiveness of low frequency in situ needle acupuncture combined with body sonic pad therapy. <i>Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)</i> . 1992; 42(2): 169-73 (in Japanese with English abstract).	3	I
O	Assessment of clinical usefulness of an aurora beamer used in combination with acupuncture	acupuncture aurora beamer	Kitade T, Hayashida I, Shinohara S, et al. Assessment of clinical usefulness of an aurora beamer used in combination with acupuncture: Using the AMI (apparatus for measuring the functioning of the meridians and their corresponding internal organs). <i>Nihon Shinkyu Ryodoraku Igakkai Zasshi (Journal of Japan Ryodoraku Medicine Society)</i> 1995; 23(4): 7-9. (in Japanese).	3	I
O	Acupuncture for gait disorders in the elderly	acupuncture	Seki T, Kurusu M, Arai H, et al. Acupuncture for gait disorders in the elderly. <i>Journal of the American Geriatrics Society</i> 2004; 52(4): 643-4.	1	C
O	Effect of press tack needle on smoking.	press tack needle	Ishibashi Y, Ono M, Kenmotsu T, et al. Effect of press tack needle on smoking. <i>Toyo Ryoho Gakko Kyokai Zasshi (The Journal of Oriental Medicine College Association)</i> 2008; 31: 113-7 (in Japanese).	1	I
O	Consideration of tonification and dispersion based upon clinical experiment.	acupuncture	Kinoshita H. Consideration of tonification and dispersion based upon clinical experiment. <i>Nihon Shinkyu Chiryō Gakkaishi (The Journal of the Japan Acupuncture and Moxibustion Society)</i> 1971; 20(3): 6-13. (in Japanese).	1	J
O	Intensity of acupuncture and its response, over dose of individuals.	acupuncture	Matsui Y, Okada T, Ogura C, et al. Intensity of acupuncture and its response, Over dose of individuals. <i>Ido no Nihon (The Japanese Journal of Acupuncture and Manual Therapies)</i> 2004; 63(7): 86-95 (in Japanese).	4	I
O	Clinical significance of reihai transport point	none	Moto A, Kidi M, Mitsuzawa H. Clinical significance of rei-hai transport point. <i>Dento Shinkyu (Traditional Acupuncture and Moxibustion)</i> 2008; 35(1): 76-81. (in Japanese).	4	I
O	Current state of beauty acupuncture in Japan	none	Fujieda H, Suzuki S, Zhang W. Current state of beauty acupuncture in Japan. <i>Toho Igaku (Eastern Medicine)</i> 2009; 24(3): 1-12 (in Japanese with English abstract).	4	I
O	A research of literature on economic analysis of acupuncture	none	Iioka Y. A research of literature on economic analysis of acupuncture. <i>Nihon Kounenki Igakkai Zasshi (The Journal of the Japan Menopause Society)</i> 2009; 17(2): 179-89 (in Japanese with English abstract).	4	I
O	Effects of abdominal diagnosis on simulated patients on students	none	Okyno T, Taniguchi M. Effects of abdominal diagnosis on simulated patients on students of acupuncture and moxibustion school. (1st report) Communication ability of non blind students. <i>Shinkyu syugisyohou Kyouiku (Education of Acupuncture, moxibustion and Manual Therapies)</i> 2010; 6: 10-5. (in Japanese).	4	I
O	A research of literature on economic analysis of acupuncture	none	Iwa M, Urata S, Ono N, et al. A research of literature on economic analysis of acupuncture. <i>Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)</i> . 2003; 53(1): 62-70 (in Japanese).	4	I

10. Structured Abstracts

(53 abstracts describing RCTs)

Note: Original English titles assigned by authors were used in this list and the structured abstracts. When references had no English titles, the Task Force translated the original Japanese titles into English ones (*).

Each bibliographic item is followed by its ID No. from a particular searched database

4. Metabolism and Endocrine Diseases

Reference

Mukaino Y. Acupuncture therapy for obesity using ear needle treatment – analysis of effectiveness and mechanism. *Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)*. 1981; 31(1): 67–74 (in Japanese with English abstract).

1. Objectives

To evaluate the effects and the mechanism of ear needle treatment on obesity.

2. Design

Randomized controlled trial (RCT).

3. Setting

Department of Internal Medicine, Chikko Hospital, Mie, Japan.

4. Participants

Fifty outpatients with simple obesity (120% or more of ideal body weight; age range 18–45 years, mean age 32.2). Patients with symptomatic obesity, a past history of diabetes or currently receiving treatment, or fasting blood sugar in excess of 110 mg/dL were excluded.

5. Intervention

Arm 1: Lung treatment group. Treatment for two weeks with intradermal needles. Two needles were inserted and retained at the respective locations on the ear flap, and replaced each week (n=25).

Arm 2: Shinmon (placebo) treatment group. Same as Arm 1 with different locations for insertion of the intradermal needles (n=25).

6. Main outcome measures

Change in dietary intake, satiety, and hunger, and change in fasting blood sugar, free fatty acid, insulin, gastrin, secretin, and gastrin levels after intake of 300 mL of water (some cases).

7. Main results

There was a significant difference ($P<0.05$) between Arm 1 and Arm 2 in the percent of participants showing decreased dietary intake (56% vs 28%), satiety increased by 2.5 points or more (24% vs 4%), 2.0 points or more (52% vs 16%), 1.5 points or more (64% vs 36%), and decrease in hunger (36% vs 12%). Fasting blood sugar, free fatty acids, gastrin, and secretin level showed no significant change. Insulin level alone decreased significantly ($P<0.05$) in Arm 1. Gastrin levels before and 10 minutes after intake of 300 mL of water showed gastrin secretion was promoted ($P<0.05$) in Arm 1 only.

8. Conclusions

Retaining intradermal needles at the Lung point in the cavum conchae of the ear in obese people decreases hunger sensation by promoting satiety, decreased dietary intake, decreased blood insulin levels, and increases gastrin secretion after oral intake of water.

9. From acupuncture and moxibustion medicine perspective

Locations for retention of intradermal needles were selected from a neuroanatomy perspective, and determined by impedance measurements.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

Few researchers have scientifically investigated the mechanism involved in obesity treatment by insertion of ear needles. This study is of great interest because it investigates simple obesity treatment in a multi-faceted manner in outpatients of a medical institution. It is also commendable that the study included a control group. Regrettably, the authors do not describe details of the interventions, such as timing of blood tests for fasting blood sugar, free fatty acids, insulin, gastrin, secretin, and gastrin after intake of 300 mL of water. In addition, they include too many outcome measures to focus the point of conclusion. Double masking is not used in this trial: using fake needles for a double-mask trial would be preferable. Researchers have deduced a relationship between the hypothalamus, cavum conchae, and the pancreas, and infer that what connects them is the autonomic nerve system. Elucidating that relationship would be a major breakthrough for obesity treatment as well as acupuncture and moxibustion medicine. Verification through future research is anticipated.

12. Abstractor and date

Okada A, Kaneko Y, 11 December 2010, Kawakita K, Takahashi N, 25 December 2010.

4. Metabolism and Endocrine Diseases

Reference

Mukai Y, Tsuneya Y, Hattori T. Auricular acupuncture for obesity – Concerning the significance of dermal points. *Zen Nihon Shinkyu Gakkaishi (Journal of the Japan Society of Acupuncture and Moxibustion)* 1983; 32(3): 226–32 (in Japanese with English abstract). Ichushi Web ID: 1984047876

1. Objectives

To analyze whether electrodermal points in the ear are functional units.

2. Design

Randomized controlled trial (RCT).

3. Setting

Third Internal Medicine Department, Faculty of Medicine, Mie University, Mie, Japan.

4. Participants

Fifty outpatients with simple obesity (120% or more of ideal weight). Patients with fasting blood sugar over 110 mg/dl, and patients receiving drug therapy for obesity complications were excluded.

5. Intervention

Arm 1: Electrodermal point group. Two intradermal needles each were inserted to a depth of approximately 1 mm at two locations corresponding to electrodermal points (four needles in total), fixed in place with intradermal needle tape, and replaced every week. Treatment continued for 4 weeks (n=25).

Arm 2: Non-electrodermal point group. Same treatment as Arm 1, except the needle insertion points were non-electrodermal points (n=25).

6. Main outcome measures

Changes in food intake, satiety, hunger sensation, and water intake, and changes in fasting blood sugar level, free fatty acids level, insulin level, serum Na level, and serum osmolality.

7. Main results

In Arm 1, food intake decreased significantly ($P<0.01$), satiety increased ($P<0.05$), hunger decreased ($P<0.05$), and water intake tended to decrease. In Arms 1 and 2, fasting blood sugar did decrease significantly at several time points. Insulin level, serum Na level ($P<0.05$), and serum osmolality ($P<0.005$) decreased significantly in Arm 1. The decrease in Na level and osmolality persisted into the fourth week. The mean difference in osmolality values showed a significant difference ($P<0.05$). No significant changes were observed in Arm 2.

8. Conclusions

Lung-area electrodermal points are functional units.

9. From acupuncture and moxibustion medicine perspective

Locations for retention of intradermal needles were selected from a neuroanatomy perspective, and determined by impedance measurements.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This is a clinical study of great interest. It verified that electrodermal points are functional units (acupuncture points) based on the differences in the effects of stimulation at electrodermal points and non-electrodermal points in a specific area (i.e., the lung area in the cavum conchae through which the vagus nerve passes). Notably, the study was conducted in clinic patients with obesity and outcome measures included objective measures as well as subjective measures. Table 2 shows the difference in free fatty acid values (one of the outcome measures); however, the authors do not mention this result in the body of the article. The study is multi-faceted, which complicates the data analysis. The study is not double masked. It would have been preferable to randomize in a double blind manner and include a sham needle treatment, although that may be difficult for intradermal needles. Of the 50 subjects, 44 were female and 6 male, so it is hoped that future studies investigate whether effects are gender neutral.

12. Abstractor and date

Okada A, Kaneko Y, 12 December 2010, Kawakita K, Takahashi N, 25 December 2010.

4. Metabolism and Endocrine Diseases

Reference

Mukai Y, Arakawa K, Tsuneya Y. Comparison between cardia point and lung point on auricular acupuncture. *Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)* 1984; 33(3): 279–84 (in Japanese with English abstract). Ichushi Web ID: 1985031761

1. Objectives

To evaluate the comparative differences in appetite suppression and water metabolism between obese patients treated by ear acupuncture at either the cardia point or the lung point.

2. Design

Randomized controlled trial (RCT).

3. Setting

Second Department of Internal Medicine, Fukuoka University School of Medicine, Fukuoka, Japan.

4. Participants

Forty-two outpatients aged 18 to 50 years with simple obesity (body weight, 110% or more of ideal weight). Patients with fasting blood sugar over 110 mg/dL or receiving drug therapy for symptomatic obesity or obesity complications were excluded.

5. Intervention

Arm 1: Cardia point group. Two intradermal needles each were inserted to a depth of approximately 1 mm at the cardia point of each ear (four needles in total), and retained in place with sticking plaster. The needles were replaced every week. Treatment continued for 2 weeks (n=20).

Arm 2: Lung point group. The same treatment was given, at the lung point (n=22).

One participant dropped out of each arm.

6. Main outcome measures

Changes in dietary intake, hunger, satiety, water intake, urine output and frequency, and pre- to post-treatment comparison of body mass, fasting blood sugar, serum Na, blood urea nitrogen (BUN), serum osmolality, and antidiuretic hormone (ADH). Blood samples were taken mornings after fasting from 10:00 p.m. the previous night.

7. Main results

Dietary intake and hunger decreased, and satiety increased in both groups, but there was no significant difference between groups. Water intake decreased in many cases, but there was no difference between groups. There were many cases in Arm 2 of increased urine output, but there was no significant between-group difference. Many participants in Arm 2 showed a tendency toward increased urinary frequency ($P<0.10$). Serum osmolality and ADH level ($P<0.02$) were significantly decreased in Arm 2, but not significantly changed in Arm 1, and the between-group differences were not significant. Both groups had similar body mass, and levels of fasting blood sugar, serum Na, and BUN.

8. Conclusions

Auricular acupuncture at the cardia point and the lung point have the same effect on appetite suppression and body mass decrease, but varied on water metabolism: the physiological significance of the cardia point and the lung point differ.

9. From acupuncture and moxibustion medicine perspective

Intradermal needle retention points were determined from a neuroanatomical perspective.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This study holds great interest for its comparison of the effects of the lung point and the cardia point (electrodermal points near the vagus nerve in the cavum conchae region, which when stimulated are thought to suppress appetite by regulation of the autonomic nervous system). The study suggests the lung point has a specific physiological significance. It can be surmised that the locations of the lung point and the cardia point were determined by dermatometer measurements, but the authors make no mention of this. Regrettably, data on measures mentioned in the abstract, namely hunger and satiety, are not included in the paper.

Serum osmolality decreased, however, water intake decreased, ADH decreased, and urine output increased. The authors account for this inconsistency in the negative feedback system by suggesting ear acupuncture resets the automatic fluid regulation mechanism. The explanation is, however, incomplete. A yet to be published study in obese rats hypothesizing that the hypothalamus is the destination of each acupoint stimulus found evidence to suggest that afferent stimulation at the ear (which results in efferent stimulation of peripheral organs) is mediated by the hypothalamus. This study and a series of studies investigating ear acupuncture outcomes are anticipated to elucidate the mechanisms involved.

The cardia point and the lung point are electrodermal points in the same region, the cavum conchae, and their appetite suppression effects are similar. However, this study has clinical significance because it suggests that the lung point specifically affects water metabolism.

12. Abstractor and date

Okada A, Kaneko Y, 28 December 2010, Takahashi N, 11 January 2012.

4. Metabolism and Endocrine Diseases

Reference

Mukaino Y, Arakawa K. Change of taste by ear acupuncture in simple obese patients. *Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)* 1985; 34(3,4): 211–6 (in Japanese with English abstract). Ichushi Web ID: 1986071708

1. Objectives

To evaluate the effect of ear acupuncture on taste and the difference between the effects of left-side and right-side acupuncture.

2. Design

Randomized controlled trial (RCT).

3. Setting

Second Department of Internal Medicine, Fukuoka University School of Medicine, Fukuoka, Japan.

4. Participants

Sixty-three outpatients aged 20–60 years with simple obesity (body weight, 110% of the ideal weight or more). Patients taking medications for obesity complications or with fasting blood sugar over 110 mg/dL and symptomatic obesity were excluded.

5. Intervention

Method A Arm 1: Bilateral lung point group. Two intradermal needles were each inserted to a depth of approximately 1 mm at the lung point on both sides and retained in place with sticking plaster. The needles were replaced every week. Treatment continued for four weeks (n=19).

Arm 2: Right cardia/lung point group. Same treatment as Arm 1, at the right cardia point and right lung point (n=20).

Method B Arm 3: Right cardia/lung point group. Same treatment as Arm 1, at the right cardia point and right lung point (n=13).

Arm 4: Left cardia/lung point group. Same treatment as Arm 1, at the left cardia point and left lung point (n=11).

6. Main outcome measures

Appetite suppression effects and changes in body weight and taste. (Dietary intake, appetite, and satiety were assessed by a daily questionnaire and rated on a 6–7-point scale. Body weight was measured every week. Taste was examined before treatment, and 1 and 4 weeks after treatment.)

7. Main results

Method A: Appetite was suppressed in 47.4% of patients in Arm 1 and 25% of patients in Arm 2. Mean body weight decrease was greater in Arm 1 (1.7±0.2 kg compared to 1.5±0.3 kg), but there was no significant between-group difference. With the substantial appetite suppression effect and body weight decrease, salt-taste sensitivity increased in both Arm 1 and Arm 2.

Method B: There was a significant positive correlation ($r=0.794$, $P<0.01$) in Arm 3 between salt-taste threshold and body weight decrease. The same trend was observed in Arm 4 ($r=0.536$, $P<0.1$). There was a significant difference between the slopes of the regression lines in Arm 3 and Arm 4 but no difference in variance between the two groups. The mean body weight decrease for the four weeks was 1.3 kg in Arm 3 and 0.8 kg in Arm 4.

8. Conclusions

Ear acupuncture increases salt-taste sensitivity. Right-side stimulation is more effective.

9. From acupuncture and moxibustion medicine perspective

Locations for retention of intradermal needles were determined with an Ishikawa dermatometer (PD-1).

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This study examined the effect of ear acupuncture on taste and the difference between the effects of left-side and right-side acupuncture. It infers a relationship between the afferent stimulation of ear acupuncture and the taste conduction pathway. It is hoped that further examination can clarify whether the glossopharyngeal, vagus, chorda tympani, and greater petrosal nerves, which conduct taste impulses, pass through the ear flap, and explain the relation between the afferent stimulation of ear acupuncture and the taste conduction pathway. While the study showed that right-side stimulation was effective, it goes no further than suggesting the possibility that the dominant hemisphere of the brain is involved, and does not explain that mechanism. This is a topic for future investigation, as the authors themselves mention. Neither of the subjects of investigation in this study have been investigated before and the results hold great interest; however, limiting the study to one subject (e.g. mechanism) might have given the study a clearer focus.

The paper also mentions the possibility of applying the treatment to various illnesses, besides obesity, such as hypertension, which are also strongly linked to salt intake. The study has great clinical significance.

12. Abstractor and date

Okada A, Kaneko Y, 27 December 2010, Takahashi N, 11 January 2012.

5. Psychiatric/Behavioral Disorders

Reference

Sawada T, Sawada C, Fukuda F, et al. Effect of TEAS (Transcutaneous Electrical Acupuncture Point Stimulation) on intellect and daily activity of the aged. *Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)* 2001; 51(1): 69–80 (in Japanese with English abstract). Ichushi Web ID: 2001181197

1. Objectives

To evaluate the effect of transcutaneous electrical acupuncture point stimulation (TEAS) on decreased intellectual function and activities of daily living in the elderly.

2. Design

Randomized controlled trial using sealed envelopes for allocation (RCT-envelope).

3. Setting

Nishikyoto Hospital, Kyoto, Japan.

4. Participants

One hundred and five elderly inpatients aged 70 years or older; those with sequelae of stroke were excluded.

5. Intervention

Arm 1: Exercise therapy + TEAS combination group. In addition to exercise therapy, electrical stimulation was applied to the left and right LI4 (合谷) – LI10 (手三里) acupuncture points at a frequency of 2 Hz for 15 minutes, 3 times a week for 8 weeks (n=49).

Arm 2: Exercise therapy alone group (n=44).

Of 105 patients, 12 discharged after the start of the study were excluded from the analysis.

6. Main outcome measures

Revised version of Hasegawa Dementia Scale (HDS-R) and Dementia Behavior Disturbance Scale (DBD Scale).

Both scales were evaluated before and 4 and 8 weeks after the start of TEAS treatment.

7. Main results

HDS-R score and DBD Scale score were significantly improved by 4 and 8 weeks after the start of the intervention in both arms ($P<0.001$), but there was no significant between-arm difference. Subgroup analysis according to the pre-intervention HDS-R score or DBD Scale score revealed no significant difference.

8. Conclusions

Exercise therapy improves intellectual and daily living functions in the elderly and the addition of TEAS treatment enhances this improvement.

9. From acupuncture and moxibustion medicine perspective

The authors mentioned that increased cerebral blood flow may be the mechanism underlying the treatment effect of TEAS.

10. Safety assessment in the article

None.

11. Abstractor's comments

This valuable study determined how the addition of TEAS to the usual physical therapy could contribute to the improvement of intellectual and daily living functions in elderly inpatients. It is also appreciated that not only participants were stratified based on the HDS-R score, but also detailed analysis was accomplished by the stratification of patients according to the HDS-R score in addition to performing between-arm comparisons.

Although the authors concluded that TEAS improves intellectual and daily living functions in the elderly, the results showed improvement when pre- and post-intervention scores were compared within the each arm, but not when the combination was compared with physical therapy alone (between-arm comparison). In general, the post-intervention condition is affected by many factors besides the intervention itself. For example, spontaneous resolution or patient-specific fluctuation of symptoms may occur. In addition, various environmental factors and concomitant drugs may affect the condition. Therefore, the result of before-and-after comparison possibly involves some bias, and so further validation is needed.

12. Abstractor and date

Wakayama I, 9 September 2011.

5. Psychiatric/Behavioral Disorders

Reference

Shichido T, Arichi S, Mori E, et al. The effect of acupuncture on unidentified syndrome – sequential medical trial. *Zen Nihon Shinkyu Gakkaishi (Journal of the Japan Society of Acupuncture and Moxibustion)* 1982; 32(1): 33–43 (in Japanese with English abstract). Ichushi Web ID: 1983164007

1. Objectives

To evaluate the objective effects of acupuncture and moxibustion on unidentified syndrome in a clinical trial using sequential testing.

2. Design

Randomized controlled trial (RCT).

3. Setting

Arichi Internal Medicine Umeda Clinic, Osaka, Japan.

4. Participants

Twenty pre-climacteric women 20 years or older complaining of unidentified syndrome. Matching was based on age and number of symptoms. Mean age in the two groups: 37.9±8.4 and 43.1±6.4.

5. Intervention

Arm 1: Test group. Galenical extract plus acupuncture and moxibustion corresponding to the specific complaint (n=10).

Arm 2: Control group. Galenical extract only (n=10).

Approximately 20 minutes twice a week, for two weeks: total four times.

6. Main outcome measures

Five-point self-evaluation (overall improvement, daily life difficulties, effects by symptom), and percentage change in α , β , and θ waves recorded during the microvibration (MV) test.

7. Main results

The percentage of participants subjectively benefiting from treatment was significantly higher in Arm 1 (60%) than Arm 2 (10%). A significantly more effective trend for shoulder stiffness in the second week was observed in Arm 1 than in Arm 2 ($P=0.086$). Analysis of changes in wave energy between the first measurement and the second week showed that θ waves increased significantly ($P<0.05$) and β waves tended to decrease in Arm 1.

8. Conclusions

Adding acupuncture and moxibustion to galenical treatment improves subjective symptoms of unidentified syndrome.

9. From acupuncture and moxibustion medicine perspective

Acupuncture treatment locations depended on subjects' complaints, and treatment was aimed at muscle tenderness, induration, tension, etc.

10. Safety assessment in the article

No adverse effect.

11. Abstractor's comments

This controlled trial of acupuncture and moxibustion is thoroughly commendable for investigating unidentified syndrome, though most RCTs related to acupuncture and moxibustion focus on pain. As it was a clinical trial, the subjects were prescribed galenical extract to suit their various symptoms, acupuncture and moxibustion treatments were selected according to subjects' complaints, so treatment locations varied. Regrettably, it would be difficult to repeat the trial because the skill levels of the five therapists involved in the trial were not mentioned. While evaluating unidentified syndrome in a trial is difficult, this trial had a sequential design using matched pairs of patients, which increases the likelihood of arriving at outcomes even if the sample size is relatively small. Also the efficacy rate was calculated from patients' self-evaluation data, making for a very logical analysis. This study offers possibilities for future research.

12. Abstractor and date

Kohashi T, 8 January 2011.

7. Eye Diseases

Reference

Fukuno A, Tsuru H, Kataoka K, et al. Acupuncture stimulation improves visual acuity without refractive change. *Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)*. 2008; 58(2): 195–202 (in Japanese with English abstract). Ichushi web ID: 2008225957

1. Objectives

To evaluate the effects of acupuncture stimulation on the improvement of visual acuity in subjects without refractive change.

2. Design

Crossover randomized controlled trial (RCT cross-over).

3. Setting

Department of Ophthalmology, the Meiji University of Oriental Medicine (current Meiji University of Integrative Medicine) Hospital, Kyoto, Japan.

4. Participants

Thirty patients (age 73.0±1.4 [mean±standard error]) randomly selected from patients who underwent phacoemulsification and intraocular lens implantation procedures between January and December 2005 and had no overall physical problems or ocular disorder, other than cataract (60 eyes; 16 males, 14 females). Eyes of one subject were allocated to test and control intervention.

Intervention

Arm 1: Trial group. Disposable stainless steel needles (0.16×30 mm, Seirin Co., Ltd.) were inserted and retained at the bilateral LI4 (合谷), Ex-HN5 (太陽), and Shang-jingming (上睛明穴, no WHO code) acupuncture points for 10 minutes while resting supine (n=30).

Arm 2: Control group. The same needles as Arm 1 were inserted and retained at the bilateral points one cm lateral from LI4 (合谷), Ex-HN5 (太陽), and a point one cm above the Shang-jingming (上睛明穴) for 10 minutes (n=30).

5. Main outcome measures

Uncorrected visual acuity and corrected visual acuity before and after acupuncture stimulation.

6. Main results

No significant difference in either change in uncorrected visual acuity or change in corrected visual acuity was observed between Arm 1 and Arm 2. No visual acuity enhancing effects were observed with acupuncture stimulation under drug-induced mydriasis.

7. Conclusions

Acupuncture stimulation enhances visual acuity in elderly people who cannot regulate refraction. The results suggest that a pinhole effect from miosis caused by acupuncture stimulation may be involved.

8. From acupuncture and moxibustion medicine perspective

The same results were observed in both the sham group and the acupuncture stimulation group in this experiment. That may be because LI4 (合谷), Ex-HN5 (太陽), and the Shang-jingming (上睛明穴) acupuncture points are locations identified on the basis of experience, and the results of this trial may be attributable to miotic reflex caused by trigeminal area stimulation.

9. Safety assessment in the article

Not mentioned.

10. Abstractor's comments

The mechanism of visual acuity improvement by acupuncture is not well known. This interesting paper examines the effectiveness of acupuncture in patients who received cataract surgery without refractive change, in order to elucidate that mechanism. The study is not an RCT with two or more groups, but rather a study with a crossover design. This design is not recommended by the WHO Clinical Research Methodology for Acupuncture because the results are difficult to interpret. The paper does not discuss the carry-over effect and the period effect, which are peculiar to this design. The study does not compare two independent groups; the interventions were carried out on a single eye in each subject, and the other eye was treated as the control. The sample size appears to be 60 (eyes), but the number of subjects was 30. This means that independence of measurement was not achieved, where one individual is treated as one individual, and subjects are randomly sampled. Therefore, statistical testing was not possible. Readers should be cautious. In addition, the control intervention (sham stimulation) involved needle retention, which would be expected to have a physiological effect. Further, it is premature to conclude that the improvement in visual acuity with acupuncture was due to the pinhole effect, as mentioned in the discussion. It is hoped that the authors will improve the design and evaluation methods of future studies, and pursue further research to find acupuncture and moxibustion applications for real ophthalmology disorders.

11. Abstractor and date

Kaneko Y, 15 September 2010, Shichido T, 9 December 2010.

9. Cardiovascular Diseases

Reference

Kawase Y, Ishigami T, Hori S, et al. Effectiveness of the Zusanli (ST36) point for hypertension in acupuncture -Controlled clinical trials using the envelope method- *Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion)* 2000; 50: 185–89 (in Japanese with English abstract). Ichushi Web ID: 2000218637

1. Objectives

To evaluate the depressor effect of acupuncture at the ST36 (足三里) acupuncture point.

2. Design

Randomized controlled trial using sealed envelopes for allocation (RCT-envelope).

3. Setting

Multicenter clinical trial in 10 clinics in Japan.

4. Participants

Twenty four patients whose all three measurements of blood pressure met the criteria for hypertension, defined by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (USA).

5. Intervention

Arm 1: Taikyoku therapy (太極療法, holistic approach to acupuncture and moxibustion treatment)+hyochiho (標治法, local or symptomatic treatment)+acupuncture at the ST36 (足三里) acupuncture point (n=12).

Arm 2: Taikyoku therapy+hyochiho (n=12).

Treatments were administered at least once weekly and at least 8 times during the study period.

Data for only 14 of the 24 participants with a diastolic pressure of 90 mmHg or higher and a systolic pressure of 140 mmHg or higher were reported.

6. Main outcome measures

Diastolic and systolic blood pressures.

7. Main results

Intragroup comparison revealed significant changes in systolic pressure only in Arm 2 ($P<0.01$, ANOVA). Diastolic pressure changed significantly in both Arms 1 and 2 ($P<0.01$). There were, however, no significant between-arm differences.

8. Conclusions

The ST36 (足三里) acupuncture point does not have a depressor effect in hypertensive patients.

9. From acupuncture and moxibustion medicine perspective

Single acupuncture at the ST36 (足三里), in addition to taikyoku therapy and hyochiho, was administered to treat hypertension, but no clinical effect was identified.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This multicenter clinical trial in 10 acupuncture and moxibustion clinics was a meaningful attempt. It is, however, problematic that only 24 patients were enrolled and assigned treatment at each site. In addition, considering that the objective of the study was to evaluate the depressor effect of acupuncture at the ST36 (足三里) acupuncture point, there is strong doubt about the adequacy of the study design: stimulation of 13 acupuncture points, as taikyoku therapy, plus hyochiho were administered in both arms, and then single needling technique was applied at the ST36 (足三里) acupuncture point only in Arm 1. Results showed slight, but not significant, differences in reductions in blood pressure between the two Arms. The possibility of type II error cannot be ruled out because of the small number of patients included. It is also regrettable that outcomes of 10 out of 24 patients included were not described and no measurements at 3 months were reported. This article brings into question the design of clinical trials conducted in acupuncture and moxibustion clinics in Japan. Suggestions to resolve this issue are needed.

12. Abstractor and date

Kawakita K, 9 September 2011.

9. Cardiovascular Diseases**Reference**

Arai YCP, Kato N, Matura M, et al. Transcutaneous electrical nerve stimulation at the PC-5 and PC-6 acupoints reduced the severity of hypotension after spinal anaesthesia in patients undergoing Caesarean section. *British Journal of Anaesthesia* 2008; 100 (1): 78–81. Pubmed ID: 17959591

1. Objectives

To determine the efficacy of transcutaneous electrical nerve stimulation (TENS) at the PC6 (内関) and PC5 (間使) acupoints for hypotension after spinal anaesthesia in Caesarean section patients.

2. Design

Randomized controlled trial using sealed envelopes for allocation (RCT-envelope).

3. Setting

Not described.

4. Participants

There were 36 singleton parturients (38–39 weeks). Patients with preeclampsia, hypertension, diabetes, or obesity were excluded.

5. Intervention

Arm 1: Acupoint. TENS at the PC6 (内関) and PC5 (間使) acupoints of both arms (n=12).

Arm 2: Non-acupoint. TENS at non-acupoints of both shoulders (n=12).

Arm 3: Control. No treatment (n=12).

TENS was commenced immediately after patients entered the operating theatre. TENS was continued until delivery at 50 Hz with current intensity increased to the maximum tolerable level without causing muscle contraction or discomfort.

6. Main outcome measures

Systolic BP, diastolic BP, heart rate, ephedrine dosage, and frequency.

7. Main results

Minimal pressure, both systolic and diastolic, was significantly higher in Arm 1 ($P=0.013$, <0.001 , 0.001 , respectively). Systolic pressure only was significantly higher in Arm 2 than Arm 3 ($P<0.001$). There was no difference in heart rate among arms. Ephedrine dosage and frequency were significantly lower in Arm 1 ($P=0.025$).

8. Conclusions

TENS at the PC6 (内関) and PC5 (間使) acupoints reduces the severity of hypotension due to spinal anaesthesia in patients undergoing Caesarean section.

9. From acupuncture and moxibustion medicine perspective

The fact that TENS at PC6 (内関) increases heart output and reduces hemorrhagic hypotension suggests the possibility that TENS at PC6 (内関) and PC5 (間使) augments sympathetic tone, increased cardiac function and vascular tone, and reduces hypotension.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

Vasopressor therapy has been heavily relied on for hypotension after spinal anaesthesia in patients undergoing Caesarean section. This is, therefore, a groundbreaking study in which an RCT was used to examine the effects of TENS. Although masking is not included in the design of this study, the measures are objective measures and enable impartial examination of the outcomes. The relationships between each individual measure and the objective are simple, so they are readily comprehensible. While this study does conclude that TENS at PC6 (内関) and PC5 (間使) acupoints is effective for hypotension, Caesarean section is major surgery that risks the life of both the mother and the fetus, so further vigorous work is anticipated to find the most appropriate frequency and to further increase the number of cases studied, with backup vasopressor drugs.

12. Abstractor and date

Shimoichi Y, 11 September 2011.

10. Respiratory Diseases (including Influenza and Rhinitis)

Reference

Isobe Y, Yu S, Inoue E. Common cold prevention and therapeutic effects of acupuncture in a randomized controlled trial*. *Toyo Ryoho Gakko Kyokai Zasshi (The Journal of Oriental Medicine College Association)* 2000; 24: 94–7 (in Japanese). Ichushi Web ID: 2003049904.

1. Objectives

To evaluate the preventative effects of acupuncture against common cold and its therapeutic effects after infection.

2. Design

Randomized controlled trial (RCT).

3. Setting

Morinomiya College of Medical Arts and Sciences, Osaka, Japan.

4. Participants

Twenty-four healthy adult students and teachers recruited for the cold-prone winter period of 20 January to 19 February 2000.

5. Intervention

Arm 1: Acupuncture treatment group. Acupuncture for 15 seconds at the *ah-shi* (tender) point(阿是穴) on both sides of the throat, above a point about 45 mm (1.5 cun) lateral to the laryngeal prominence, with 0.16 x 40 mm needles after obtained “acupuncture sensation (*hibiki*)” toward the back part of the throat as an indicator, twice a week for four weeks (1 month)(n=11).

Arm 2: Control group. No treatment (n=12).

One participant was dropped before allocation.

6. Main outcome measures

Daily cold diary written by each subject noting the following: fit and well, normal, feels like cold coming on, severe cold (staying home and resting), number of days before catching cold, number of days sick with cold.

7. Main results

The two groups were allocated almost evenly. The number of days until a cold was caught was greater in Arm 1 (second week). The number of occurrences of cold was the same in both groups. The median number of sick days was two days less in Arm 1.

8. Conclusions

Intervention by acupuncture treatment delays the onset of cold, and decreases the number of sick days.

9. From acupuncture and moxibustion medicine perspective

Treatment on “the *ah-shi* point located above a point about 45 mm lateral to the laryngeal prominence after obtained “acupuncture sensation (*hibiki*)” toward the back part of the throat as an indicator” is an empirical method. It is not the usual acupuncture point or an extra point.

10. Safety assessment in the article

None.

11. Abstractor’s comments

This study is of great interest since it focused on the preventative effects of acupuncture therapy against the common cold. The study was a pilot trial, as the authors mentioned, and there was no statistical analysis because the number of subject cases was small. This is problematic. The control group received no treatment: receiving some kind of sham treatment would be preferable. Another particular feature of the study was the selection of an atypical acupuncture point. Obtaining “acupuncture sensation (*hibiki*)” by manual insertion of a fine acupuncture needle, and using the “acupuncture sensation (*hibiki*)” as a guide, holds much interest since it is unique and characteristic method in Japanese acupuncture. It is anticipated that a future larger clinical trial based on this one will be designed with a suitable sample size.

12. Abstractor and date

Shinohara S, 31 January 2011, Kawakita K, 3 December 2011.

11. Gastrointestinal, Hepato-Biliary-Pancreatic Diseases

Reference

Kono K, Tamura S, Inoue K. Effects of acupressure point stimulation on difficulty in defecating*. *Nihon Kango Gakkai Ronbunshu, Bosei Kango (Maternal Nursing)* 2007: 74–6 (in Japanese). Ichushi Web ID: 2008110602

1. Objectives

To evaluate the effectiveness of acupressure point (ST36 [足三里] and SP6 [三陰交]) stimulation on defecation control in women recovering from childbirth.

2. Design

Randomized controlled trial (RCT).

3. Setting

Not described (the authors were affiliated with Saiseikai Kyoto Hospital).

4. Participants

Forty women recovering from childbirth after normal delivery between 2 August and 2 October 2006. Mean age in the two groups was, respectively, 29.1±4.81 and 30.9±5.22 years.

5. Intervention

Arm 1: Acupressure point stimulation group. The stimulus sites were the left and right ST36 (足三里) and SP6 (三陰交). Acupressure stimulation was applied to the sites for about one minute each twice a day for five days from the day after delivery. The acupressure stimulation was carried out at about 10 a.m. (by nurse or midwife) and about 9 p.m. (by self) (n=20).

Arm 2: Control group. No intervention (n=20).

6. Main outcome measures

Constipation assessment scale (CAS-long-term [LT]), and the number of women who used laxatives.

7. Main results

CAS scores were significantly lower in Arm 1 ($P<0.05$). The number of women who used laxatives was significantly higher in Arm 2 ($P<0.05$).

8. Conclusions

Acupressure point stimulation at ST36 (足三里) and SP6 (三陰交) is effective for defecation control in women recovering from childbirth.

9. From acupuncture and moxibustion medicine perspective

The paper suggests that the effective mechanism in acupressure point stimulation at ST36 (足三里) and SP6 (三陰交) involves stimulation of intestinal peristalsis.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This clinical trial attempted to verify whether acupressure point stimulation can resolve constipation in women recovering from childbirth, without relying on drugs. The results suggest that acupressure point stimulation may be very helpful in the treatment of such women. However, the information given in the paper about recruitment, the setting, randomization method, allocation flow chart, etc. was not complete, leaving room for improvement. A more detailed report is anticipated.

12. Abstractor and date

Haruki J, 9 September 2011.

11. Gastrointestinal, Hepato-Biliary-Pancreatic Diseases

Reference

Kawauchi Y, Hayashida M, Takeuchi C, et al. Efficacy of acupressure on prevention of postoperative nausea and vomiting. *Rinsho Masui (Journal of Clinical Anesthesia [Japan])* 2000; 24(1): 21–4 (in Japanese with English abstract). Ichushi Web ID: 2000127596

1. Objectives

To evaluate the efficacy of acupressure wrist bands applied to the PC6 (内関) acupuncture point for preventing postoperative nausea and vomiting.

2. Design

Randomized controlled trial (RCT).

3. Setting

Department of Anesthesia, Tokyo Metropolitan Fuchu Hospital (current Tokyo Metropolitan Tama Medical Center), Tokyo, Japan.

4. Participants

One hundred and four patients with gynecological benign disease who were scheduled for laparotomy under general anesthesia between September 1997 and August 1998 (mean age for each group: 45, 46 years, respectively).

5. Intervention

Arm 1: Acupressure group: acupressure wrist bands (Sea band ® Sea Band UK Ltd.) were preoperatively applied at the bilateral PC6 (内関) acupuncture points (with a plastic ball under the band touching the acupuncture point). During the operation, the anesthesiologist pressed the point every 30 minutes and after the operation, each patient pressed the point on an as needed basis for 24 hours (n=52).

Arm 2: Control group: no intervention (n=52).

6. Main outcome measures

Presence or absence of nausea and vomiting (determined by interview) and usage of antiemetic infusion (obtained from nursing records).

7. Main results

Significantly fewer patients developed postoperative nausea or vomiting in Arm 1 compared with Arm 2 ($P<0.05$ and $P<0.001$, respectively). The number of patients who used antiemetic infusion was also smaller, but not significantly, in Arm 1. Although the number of patients enrolled initially is not clear, patients whose acupressure ball had moved away from the PC6 (内関) acupuncture point were excluded from the analysis.

8. Conclusions

Acupressure at the PC6 (内関) acupuncture point is effective for preventing postoperative nausea and vomiting.

9. From acupuncture and moxibustion medicine perspective

The authors mentioned some reports on the mechanism underlying the treatment effects of acupuncture on nausea and vomiting, including acupuncture-induced secretion of neurochemical substances and increased gastric peristalsis.

10. Safety assessment in the article

Sixteen patients developed mild edema in the hands.

11. Abstractor's comments

This very simple clinical trial determined whether acupressure band application might have a preventive effect on postoperative nausea and vomiting and provided clear results. Some aspects of the trial may need improvement: 1) there is no detailed description about the method for random assignment; 2) there is no quantitative outcome measure; and 3) as the authors stated in the article, bias may have been introduced by telling patients about the antiemetic effect of the band before the bands were applied.

12. Abstractor and date

Wakayama I, 9 September 2011.

11. Gastrointestinal, Hepato-Biliary-Pancreatic Diseases

Reference

Kotani N, Hashimoto H, Sato Y, et al. Preoperative intradermal acupuncture reduces postoperative pain, nausea and vomiting, analgesic requirement, and sympathoadrenal responses. *Anesthesiology* 2001; 95(2): 349-56. Pubmed ID: 11506105

1. Objectives

To evaluate the effects of intradermal acupuncture on pain, nausea and vomiting, intravenous morphine consumption, and plasma cortisol and catecholamines after abdominal surgery.

2. Design

Randomized controlled trial using sealed envelopes for allocation (RCT-envelope).

3. Setting

Department of Anesthesiology, School of Medicine, University of Hirosaki, Aomori, Japan.

4. Participants

One hundred and seven patients undergoing upper abdominal surgery and 82 undergoing lower abdominal surgery.

5. Intervention

Upper abdominal surgery group:

Arm 1: Intradermal acupuncture group: intradermal needles (5 mm in length and 0.16 mm in diameter) were inserted horizontally into the skin at the bilateral acupuncture points of BL18 (肝兪), BL19 (胆兪), BL20 (脾兪), BL21 (胃兪), BL22 (三焦兪), BL23 (腎兪), and BL24 (氣海兪), fixed with bandages, and retained until postoperative day 4 (n=54).

Arm 2: Control group: intradermal needles were put, without insertion, on the same sites as in Arm 1, fixed with bandages, and retained until postoperative day 4 (n=53).

Lower abdominal surgery group:

Arm 1: Intradermal acupuncture group: intradermal needles (5 mm in length and 0.16 mm in diameter) were inserted horizontally into the skin at the bilateral acupuncture points of BL20 (脾兪), BL21 (胃兪), BL22 (三焦兪), BL23 (腎兪), BL24 (氣海兪), BL25 (大腸兪), and BL26 (關元兪), fixed with bandages, and retained until postoperative day 4 (n=41).

Arm 2: Control group: intradermal needles were put, without insertion, on the same sites as in Arm 1, fixed with bandages, and retained until postoperative day 4 (n=41).

Nine and five patients in the upper and lower abdominal surgery groups, respectively, were excluded from the analysis due to postoperative complications.

6. Main outcome measures

Verbal rating scale (4-point scale from 0 to 3, with a lower score indicating less severity) scores for postoperative pain (incisional and deep visceral pain) and postoperative nausea and vomiting; daily consumption of intravenous morphine; and plasma concentrations of adrenal hormones (cortisol, adrenaline, noradrenaline, and dopamine).

7. Main results

In both upper and lower abdominal surgery groups, postoperative pain was significantly reduced in Arm 1 compared with Arm 2 ($P<0.05$ for both). Morphine consumption decreased significantly over time ($P<0.0001$). Daily consumption of morphine decreased significantly by up to 50% in Arm 1 compared with Arm 2 on postoperative days 1 to 4 ($P<0.01$). The frequency of postoperative nausea and vomiting decreased significantly by up to 20–30% in Arm 1 compared with Arm 2 ($P<0.05$ and $P<0.01$, respectively). Plasma concentrations of cortisol and epinephrine were up to 30–50% lower in Arm 1 than in Arm 2 on postoperative days 0 and 1 ($P<0.01$).

8. Conclusions

Preoperative intradermal needle placement reduces pain, morphine consumption, morphine-induced nausea and vomiting, and sympathetic response after upper and lower abdominal surgery.

9. From acupuncture and moxibustion medicine perspective

The authors mentioned that preoperative acupuncture stimulation is important for obtaining relief of pain, nausea, and vomiting, and that acupuncture on the bladder meridian (gallbladder meridian) may be more useful for suppressing nausea and vomiting than acupuncture at the PC6 (内関).

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This is a very well-designed masked study (patients and evaluators were masked), providing reliable results and conclusions. It would be more complete if it included a flow chart of patient assignment, sample size calculation, intention-to-treat (ITT) analysis, and description of masking status.

12. Abstractor and date

Wakayama I, 9 September 2011.

12. Skin Diseases

Reference

Sakuraba H, Sawazaki K, Takeuchi H, et al. The effect of acupuncture in the improvement of hemodialysis patients' QOL: Practice of acupuncture treatment for itch. *Jinzo (The Kidney)* 2007; 30(2): 167–74 (in Japanese). Ichushi Web ID: 2008091867

1. Objectives

To evaluate the effectiveness of acupuncture for itching in hemodialysis patients.

2. Design

Quasi-randomized controlled trial (Quasi-RCT - crossover).

3. Setting

Hospital "T" (one author was affiliated with Takeuchi Hospital), Mie, Japan.

4. Participants

Eighteen hemodialysis patients (7 males, 11 females, mean age 64.9±9.8 years).

5. Intervention

Arm 1: Group A. Acupuncture (12 weeks), followed by washout (4 weeks), then no treatment (12 weeks).

A total of 24 Pyonex (0.6 mm, Seirin Co., Ltd.) press tack needles were applied, 12 by the acupuncturist and 12 by the patient. Application locations were determined by the Meridian Test. The authors mention that the treatment points for patients with strong itching were determined according to previous research, however, they do not mention the names or the number of these acupuncture points (n=10).

Arm 2: Group B. No treatment (12 weeks), followed by washout (4 weeks), then acupuncture (12 weeks). The acupuncture treatment was the same as in Arm 1 (n=8).

6. Main outcome measures

Visual analogue scale (VAS) score for itchiness assessed before and after each treatment period, for a total of 4 times. Health Related Quality of Life (HRQOL) scale SF-8™ Health Survey Japanese edition (standard) assessed before and after each treatment period, for a total of 4 times. Original acupuncture treatment questionnaire completed only once, after acupuncture treatment was stopped.

7. Main results

VAS scores in Arm 1 decreased significantly with acupuncture treatment ($P<0.01$). SF-8™ scores increased during treatment in both groups, but showed no definite trend during the no-treatment period. The original questionnaire responses showed that itchiness, stiffness, dizziness, irritability, and sluggishness decreased in many patients. A plurality of patients (n=9) preferred a combination of self-treatment and treatment by an acupuncturist. The mean number of needles used was 26.8 per week (13.4 per treatment).

8. Conclusions

Acupuncture for hemodialysis patients using press tack needles and self-treatment is effective for patient complaints, including itchiness.

9. From acupuncture and moxibustion medicine perspective

Not mentioned.

10. Safety assessment in the article

Eight adverse events were reported including aggravation of symptoms (itch [2] and low back pain [1]), fatigue (2), residual acupuncture sensation (1), incrustation at the point of needle application (1), and bruising (1).

11. Abstractor's comments

Regular long-term hemodialysis is a physical and mental burden on patients. It is important to find ways of improving the quality of life of such patients, even a little. This study is therefore very significant as it evaluates the efficacy of acupuncture for itching, including acupuncture administered by the patient at home on non-dialysis days. However, the paper does not clearly explain the link between Meridian Testing* and itching, although the authors did use the test to select points for treatment. Neither do the authors describe the location, frequency, symptoms, or period of itching. Apparently when studying diseased patients in particular, and not just hemodialysis patients, researchers need to devise interventions suited to each patient's physical condition and stratify them. The authors reported eight safety-related incidents, however they completed the study with no dropouts by shortening the press tack needle application period. This is a significant clinical study of the complaints of hemodialysis patients: further research is anticipated.

* The Meridian Test, also called the M-test, was devised by Mukaino Y. A pain or complaint that is induced by extension of a body part identifies the meridian that passes through the extended part requiring treatment.

12. Abstractor and date

Shimoichi Y, 11 September 2011.

13. Diseases of the Musculoskeletal and Connective Tissue**Reference**

Kasuya D, Sawada T, Isobe H, et al. Multi-center randomized controlled trial of acupuncture and moxibustion for rheumatoid arthritis. *Nihon Onsen Kiko Butsuri Igakkai Zasshi (The Journal of the Japanese Society of Balneology, Climatology and Physical Medicine)* 2005; 68(4): 193–202 (in English with Japanese abstract). Ichushi Web ID: 2005266317

1. Objectives

To examine the effectiveness of acupuncture and moxibustion for rheumatoid arthritis (RA).

2. Design

Randomized controlled trial (RCT).

3. Setting

Four medical institutions in Japan: Department of Allergy and Rheumatology, Graduate School of Medicine, the University of Tokyo Hospital (Tokyo); Tokyo Women's Medical University, Institute of Oriental Medicine (Tokyo); Department of Oriental Medicine, Saitama Medical School (Saitama); and Department of Oriental Medicine, Gifu Medical School (Gifu).

4. Participants

Outpatients who received treatment for RA at the various medical institutions from 2001 to 2003 (n=178).

5. Intervention

Arm 1: Drug therapy group (n=82).

Arm 2: Drug therapy plus acupuncture and moxibustion group. Acupuncture and moxibustion treatment was adapted to the RA severity and stage in each patient and was given for approximately one year once every one to two weeks (n=96).

Details of the treatment are not described.

Two patients were dropped from Arm 1, and six from Arm 2.

6. Main outcome measures

The American College of Rheumatology (ACR) core set variables and AIMS-2 (Arthritis Impact Measurement Scales version 2). Both were evaluated at baseline and at 12 months of intervention.

7. Main results

The number of patients who satisfied the ACR core set of improvement criteria was significantly greater in Arm 2 ($P=0.04$). AIMS-2 scores were significantly lower (improved) in Arm 2 ($P=0.01$).

8. Conclusions

Combining acupuncture and moxibustion with drug therapy improves pain and activities of daily living in RA patients.

9. From acupuncture and moxibustion medicine perspective

The paper mentions that a multi-center clinical trial of acupuncture and moxibustion has the advantage of less single-center bias but the disadvantage of more difficult treatment standardization. It also mentions the difficulty of acupuncture and moxibustion clinical research itself, as well as the difficulty of conducting clinical research into RA.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This important paper involves acupuncture and moxibustion as the intervention for the chronic disease (rheumatoid arthritis), and evaluates the course of treatment over a long period (about one year). The fact that the study was conducted at a number of centers reduces single-center bias, which (as the authors mention) is commendable. A number of issues arose from conducting a multi-center clinical trial, and this study offers a number of suggestions for future studies to deal with these issues. It is also very significant that the clinical study was conducted at four university hospitals that are leading centers of acupuncture and moxibustion as well as oriental medicine in Japan. However, patients were evaluated only at baseline and after one year, so we do not know what changes occurred in the intervening time period. Furthermore, the measures in this study (ACR core set and AIMS-2) are both summary measures based on multiple items, so no analysis identified factors that are beneficially affected by acupuncture. Apparently, the acupuncture treatments were adapted to the needs of each individual patient, however, the details are given in another paper. A broad description of the treatments should have been included in this paper.

12. Abstractor and date

Haruki J, 9 September 2011.

13. Diseases of the Musculoskeletal and Connective Tissue

Reference

Shinohara S, Katsumi Y. Clinical effects of peripheral acupuncture point stimulation based on the concept of the muscle meridians for complaints during movements. *Zen Nihon Shinkyu Gakkai Zasshi (Journal of the Japan Society of Acupuncture and Moxibustion: JJSAM)* 2003; 53(1): 4–7 (in Japanese with English abstract). IchushiWeb ID: 2003270662

1. Objectives

To evaluate the clinical effect of remote acupuncture point treatment for symptoms of muscle meridian disease (経筋病, defined as muscle stiffness, jerking, cramp, or pain during movement).

2. Design

Randomized controlled trial (RCT).

3. Setting

Center of Acupuncture Science. Outpatient Clinic of the Department of Orthopedics at Meiji University of Oriental Medicine (current Meiji University of Integrative Medicine) Hospital, Kyoto, Japan.

4. Participants

A total of 88 outpatients with complaints of knee joint pain and other problems associated with movement disability diagnosed as muscle meridian disease.

5. Intervention

Arm 1: Real meridian treatment group. Intradermal needles were inserted to about a depth of 0.5 mm at the brook (榮穴) or stream (兪穴) acupuncture points on the muscle meridian related to pain, and fixed with bandages (n=30).

Arm 2: Sham treatment group. Only bandages were put on the same points as in Arm 1 (n=30).

Arm 3: Other meridian treatment group (n=28). Intradermal needles were inserted to a depth of about 0.5 mm near the brook (榮穴) or stream (兪穴) acupuncture points, and fixed with bandages (n=30).

6. Main outcome measures

Visual analog scale (VAS) score for pain. The occurrence of tenderness at the brook and stream acupuncture points.

7. Main results

Treatment in Arm 1 ($P<0.0001$) and in Arm 2 ($P=0.029$) significantly decreased pain. The decline in mean VAS score was greater in arm 1 than in Arm 2. Tenderness occurred very frequently at the brook and stream acupuncture points on the meridian related to knee pain.

8. Conclusion

Contact stimulation of the brook and stream acupuncture points on the meridian related to knee pain significantly reduces pain. However, the decrease (therapeutic effect) is greater when needle insertion is to a depth of 0.5 mm. Tenderness at the brook and stream acupuncture points occurs very frequently in a large population of patients with knee joint pain, for which the large number of cases are known.

9. From acupuncture and moxibustion medicine perspective

Not mentioned.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comment

In this interesting study, intradermal needling and contact stimulation at the brook and the stream acupuncture points decreased pain as measured on a VAS. The brook and stream acupuncture points related to knee pain are tender and this tenderness can be used to find the abnormal muscle meridian and to decide whether this treatment strategy is needed. However, complaints which lead to the diagnosis of muscle meridian disease were not described, and no analysis of intergroup differences was performed. The discussion should have focused on clarification of the protocol (i.e., description of the ratio of the numbers of stream and brook acupuncture points treated, method and duration of stimulation, and timing of the pain assessment). As pain is one of the most common indications for acupuncture and moxibustion treatment, its use for complaints other than knee pain should be investigated. Further studies on its merits and drawbacks are awaited.

12. Abstractor and date

Furuhata T / Kaneko Y, 8 December 2010, Kawakita K, 25 December 2010.

13. Diseases of the Musculoskeletal and Connective Tissue

Reference

Ozawa N, Ogawa T, Nakagawa J, et al. The effects of acupuncture and moxibustion on interior genicular osteoarthritis. *Shinkyu Osaka (Osaka Journal of Clinical Acupuncture & Moxibustion)* 2002; 18(4): 393–6 (in Japanese). Ichushi Web ID: 2003202117

1. Objectives

To evaluate the clinical effectiveness of acupuncture for knee osteoarthritis.

2. Design

Randomized controlled trial using sealed envelopes for allocation (RCT-envelope).

3. Setting

Koto Orthopedic & Internal Clinic, Osaka, Japan.

4. Participants

Sixty medial knee osteoarthritis patients who presented between September 2000 and November 2001 (mean age 64.9 years, range 45–89). Twenty-seven patients had experienced acupuncture previously and 33 had not.

5. Intervention

Arm 1: Real acupuncture (experienced) group. Needle retained for 10 minutes after *de qi* (得氣) sensation was achieved with sparrow pecking (n=15).

Arm 2: Sham acupuncture (experienced) group. Ten minutes rest after tapping with guide tubes (n=12).

Arm 3: Real acupuncture (not experienced) group. Needle retained for 10 minutes after *de qi* sensation was achieved with sparrow pecking (n=15).

Arm 4: Sham acupuncture (not experienced) group. Ten minutes rest after tapping with guide tubes (n=18). The same acupuncture points were treated in all groups: SP9 (陰陵泉), EX-LE 4 (内膝眼), SP10 (血海), and the point of maximum medial joint space tenderness. Stainless steel disposable needles (0.2×50 mm) were used.

6. Main outcome measures

Evaluation on a visual analogue scale (VAS) of pain when ascending/descending stairs.

7. Main results

The decrease in VAS score after treatment was significant in Arm 1 ($P<0.05$), insignificant in Arm 2, and significant in both Arms 3 and 4 ($P<0.05$).

8. Conclusions

Real acupuncture is more effective than sham acupuncture immediately after treatment and the effectiveness depends on whether acupuncture has been previously experienced.

9. From acupuncture and moxibustion medicine perspective

The paper mentions differences in the effects of acupuncture between patients who receive prior acupuncture treatment and those who do not receive prior acupuncture treatment.

10. Safety assessment in the article

None.

11. Abstractor's comments

This very interesting clinical trial stratifies knee osteoarthritis patients based on their history of acupuncture treatment and compares the effectiveness of acupuncture in those with and without prior acupuncture treatment in an RCT. However, the study should be improved in the following manner: the authors should describe the statistical methods, provide specific details of the randomization method (which is only described as the envelope method), and mention or compare ongoing effects (not simply the effects immediately after treatment). It is of great interest that the effectiveness of acupuncture depends on whether the patient has had prior experience with acupuncture. It will be very important to clarify whether masking with guide tube tapping accounts for this distinction. It is hoped that a larger scale clinical trial that includes more appropriate protocols will be carried out.

12. Abstractor and date

Kawakita K, 30 January 2012.

13. Diseases of the Musculoskeletal and Connective Tissue

Reference

Itoh K. Value of conservative therapy for chronic pain associated with locomotor disease - effects of TENS and acupuncture for knee osteoarthritis* -. *Mansei Totsu (The Journal of the Japanese Society for the Study of Chronic Pain)* 2005; 26: 143–8 (in Japanese with English abstract). Ichushi Web ID: 2008144239

1. Objectives

To evaluate the effects of transcutaneous electrical nerve stimulation (TENS) and acupuncture on pain in elderly patients with knee osteoarthritis.

2. Design

Randomized controlled trial (RCT).

3. Setting

Outpatient Clinic of Department of Orthopaedic Surgery and Center of Acupuncture Science, the Meiji University of Oriental Medicine (current Meiji University of Integrative Medicine), Kyoto, Japan.

4. Participants

Twenty-four elderly patients with a chief complaint of degenerative knee pain persisting for at least 6 months (6 males and 18 females).

5. Intervention

Arm 1: Acupuncture group. Needles were inserted to a depth of 10 mm at tender points selected from among the SP6 (三陰交), GB34 (陽陵泉), SP10 (血海), ST34 (梁丘), ST36 (足三里), SP9 (陰陵泉) and BL40 (委中) acupuncture points, and retained for 10 minutes. Treatment was administered once weekly, a total of 5 times (n=6).

Arm 2: TENS group. TENS stimulation pads were put on the most tender point and the corresponding point on the contralateral side. Stimulation was applied for 10 minutes. Treatment was administered once weekly at the clinic and twice or more weekly at home, a total of at least 15 times (n=6).

Arm 3: Acupuncture+TENS group. As acupuncture treatment, needles were inserted to a depth of 10 mm at tender points selected from among the SP6 (三陰交), GB34 (陽陵泉), SP10 (血海), ST34 (梁丘), ST36 (足三里), SP9 (陰陵泉), and BL40 (委中) acupuncture points, and retained for 10 minutes. Acupuncture treatment was administered once weekly at the clinic, a total of 5 times. For TENS, stimulation pads were put on the most tender point and the corresponding point on the contralateral side. Stimulation was applied for 10 minutes. TENS treatment was administered 3 times or more weekly at home, a total of at least 15 times (n=6).

Arm 4: Control group. No intervention (n=6).

In all 4 arms, for patients who had received pharmacotherapy, the drug was concurrently administered with the above-mentioned treatment.

6. Main outcome measures

Pain intensity measured on a visual analogue scale (VAS) 7 times overall: before the start of the treatment, 1 week after each of the 5 treatment sessions, and 1 month after the final treatment.

Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) measured 3 times overall: before the start of the treatment, and at 1 week and 1 month after the final treatment.

7. Main results

VAS score decreased significantly after the treatment in Arm 3 compared with that in Arm 4 ($P<0.01$). There was no significant change in WOMAC score in all arms.

8. Conclusions

Acupuncture combined with TENS is effective treatment for pain in elderly patients with knee osteoarthritis.

9. From acupuncture and moxibustion medicine perspective

The mechanism underlying the therapeutic effect of acupuncture may be similar to that described in previous reports, such as activation of the endogenous analgesic system and improved regional blood flow.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This study explored various possibilities by employing TENS (which patients can easily self-apply at home) and acupuncture as interventions and by evaluating TENS and acupuncture not only separately but also combined. As the author stated in the Discussion, maintenance of quality of life may be essential for elderly people living in underpopulated areas with insufficient access to medical care. The value of this study lies in the consideration of self-care as one medical care option. In this study, however, patients' self-application of TENS at home precluded masking. Furthermore, differences in the frequency of treatment between arms may have resulted in bias. The quality of the article could be improved in several ways, such as preliminary calculation of sample size and accurate representation of resultant figures. This is a highly valuable report on an attempt to combine acupuncture with self-care to address the healthcare needs of an increasingly aging population.

12. Abstractor and date

Shimoichi Y, 11 September 2011.