

Comparative study between two treatment protocols – Fleur de Lis and Unitary Channel Method for cervical pain*

Estudo comparativo entre dois protocolos de tratamento Flor de Liz e Método Canal Unitário em algias cervicais

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ABSTRACT

BACKGROUND AND OBJECTIVES: Acupuncture is a therapeutic method used for approximately five thousand years which promotes body harmonization and strengthening. Cervical pain affects 28% of the population. In 2004, the World Health Organization stated that cervical pain improves 67% when treated with acupuncture. The Unitary Channel technique harmonizes and treats pain. The Fleur de Lis technique relieves chronic and acute pain by directly acting on vertebrae. This study aimed at verifying which method had the best effect on pain and which has kept its effects for a longer time.

METHODS: Two groups were created. One group was treated with Fleur de Lis (G1) and the other with Unitary Channel (G2). Patients were evaluated with a questionnaire and the visual analog scale. Treatment consisted of 10 sessions of 40 minutes each, once a week. Patients were reevaluated after two, three and four weeks.

RESULTS: Participated in the study 20 patients of whom 10 have received Unitary Channel and 10 have received the Fleur de Lis technique. With the Fleur de Lis technique, mean initial pain was 5.6 and after ten sessions it was 0.1. For the Unitary Channel it was 6.36 and 2.54, respectively. Four weeks after treatment pain scores had decreased. With the Unitary Channel technique it was observed that most affected meridians were triple burner (35%), small intestine (20%) and bladder (20%), followed by gallbladder (15%), and large intestine and stomach, with 5% each. When comparing both groups after the application of the techniques, it was observed that, in general, G1 had lower scores as compared to G2. After treatment,

both groups have remained with pain intensity below zero.

CONCLUSION: Fleur de Lis technique had better results after 10 sessions and has maintained results after four weeks.

Keywords: Acupuncture analgesia, Acupuncture therapy, Cervical pain, Meridians.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A acupuntura é um método terapêutico utilizado há aproximadamente 5.000 anos que promove a harmonização e o fortalecimento do corpo. A cervicalgia atinge 28% da população. A Organização Mundial da Saúde de 2004 afirma que dores cervicais melhoram em 67% através do tratamento com acupuntura. A técnica Canal Unitário harmoniza e trata as dores. A técnica Flor de Liz alivia a dor crônica e aguda através do tratamento direto sobre as vértebras. O objetivo deste estudo foi verificar qual dos métodos produziu melhor efeito em relação à dor e qual deles manteve seus efeitos por maior tempo.

MÉTODOS: Dois grupos foram criados. Um dos grupos tratado com Flor de Liz (G1) e o outro com Canal Unitário (G2). Os pacientes foram avaliados por um questionário e pela escala analógica visual de dor. O tratamento foi realizado em 10 sessões, de 40 minutos cada, uma vez por semana. Após uma, duas, três e quatro semanas os pacientes foram reavaliados.

RESULTADOS: Foram incluídos 20 pacientes, dos quais 10 receberam Canal Unitário e 10 receberam a técnica Flor de Liz. Pela técnica Flor de Liz, a média de dor inicial foi de 5,6 e após 10 sessões foi de 0,1; enquanto com o Canal Unitário foi de 6,36 e 2,54, respectivamente. Após quatro semanas do fim do tratamento a graduação de dor diminuiu. Através da técnica de Canal Unitário observou-se que os meridianos mais acometidos foram triplo aquecedor (35%), intestino delgado (20%) e bexiga (20%), seguidos por vesícula biliar (15%) e intestino grosso e estômago com 5% cada um. Ao comparar ambos os grupos após aplicação das técnicas, verificou-se de uma maneira geral que o G1 apresentou valores inferiores aos obtidos pelo G2. Após o tratamento, ambos os grupos permanecem com intensidade inferior a zero.

CONCLUSÃO: A técnica Flor de Liz obteve melhores resultados após as 10 sessões e manteve os resultados após quatro semanas.

Descritores: Analgesia por acupuntura, Cervicalgia, Meridianos, Terapia por acupuntura.

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INTRODUCTION

Acupuncture is a millennial technique which appeared in China and was then integrated to medical therapeutic armamentarium of other Eastern and Western countries. Traditional Chinese Medicine (TCM) is based on the five elements theory, considering that the universe is made up of the movement and transformation of five elements represented by wood (liver), fire (heart), earth (spleen), metal (lungs) and water (kidneys). These elements have direct link with organs (zang) and viscera (fu) and their inter-relations are applied to the pathophysiology of diseases¹⁻³.

Cervical pain affects a considerable number of individuals, with mean of 12 to 34% of the adult population in some stage of their lives, being more prevalent among females and impairing their daily life activities.

This is seldom a sudden disease and in general may be related to abrupt movements, long stay in forced position, osteoarthritis, inflammation and trauma which, very often, induce pain^{4,5}. It may also be defined as pain in posterior region of the neck and superior region of the scapulae or high dorsal zone, which is not followed by typical signs of radiculopathy⁶.

According to the International Association for the Study of Pain (IASP), pain is an unpleasant sensory and emotional experience associated or described in terms of tissue injury. Pain has a critical biological role since it prompts people to tissue injury which may be installed or in the process of being installed⁴. However, it may manifest even in the absence of real tissue injury⁷. Organic changes, such as arthritis or disc degeneration are secondary to energetic disorders in the region, according to TCM, which characterizes individuals through energetic syndromes⁸.

For TCM, which is standing out as a rich technique to manage pain⁹, the differentiation of the nature of pain is significant to deduct its etiology and disease. A balance of yin (negative) and yang (positive) is essential to health. A deficit of any principle may manifest as disease¹⁰. Pain location helps determining imbalanced organs (Zang), viscera (Fu) and energy channels. The etiology of all musculoskeletal diseases, according to TCM, may be summarized in two categories: exogenous (external trauma, repetitive efforts and weather changes such as wind, cold and moist) and endogenous (emotional factors, age and diet)¹¹.

Both may cause muscles, joints, soft tissues and bones malnutrition affecting Qi (energy) and Xue (blood) circulation at superficial and deep levels, disrupting the functioning of Zang Fu organs through the imbalance of liver, kidney and spleen functions. Pain, sensitivity and tingling of muscles, tendons and joints are caused by Qi and Xue circulation obstruction in the meridians by external action of wind, cold and moist^{12,13}.

Among different treatment techniques, the Unitary Channel (UC) or Great Meridians technique establishes the union of two meridians of the same polarity, with equal features, making up a single energetic unit which connects High and

Low, as well in the opposite sense through the action of Antique Shu points. This way, the basic principles of this technique are harmonization and energetic treatment of them^{14,15}.

UC are six and include two Major Energy Channels: Tai Yang: large intestine x stomach; Tai Yin: lung x spleen-pancreas; Jue Yin: circulation sex x liver; Shao Yin: heart x kidney.

Evil energy (heat, wind, cold, dryness and moist) within Major Energy channels may travel from the most superficial to the deepest direction¹⁶.

Peripheral unilateral pain occurs when one side of the body is with energy deficit (Qi) with regard to the contralateral side. This lack of Qi helps the entry and installation of Evil Energies in the Major Energy Channel causing Qi stagnation and blockade^{17,18}.

Another treatment technique is Fleur de Lis (FL), an acupuncture therapeutic model which fights acute and chronic musculoskeletal pain by directly treating vertebrae, joint discs and spinal adjacent tissues. According to a study¹⁷, the FL technique is very important for each and every patient with pain induced by paravertebral muscle injury, disc protrusions or hernia in any sector of the spine. Tension relief is immediate and residual effect is long, being common total and permanent disappearance of the discomfort caused by cervical pain after four to ten applications, with significant improvement of spinal mobility in this region. This application has very strong stimuli, aiming at removing energy stagnation in the area and promoting tension relaxation¹⁸.

This study aimed at comparing both treatment techniques, namely UC and FL, and at evaluating which has the best immediate and long term response for cervical pain.

METHODS

Participated in the study volunteer patients of the Paulista University (UNIP) clinic and of the Center for the Study of Acupuncture and Alternative Therapies (CEATA). According to clinical-medical evaluation and after discarding other clinical diseases by additional exams, patients were included in the research.

Patients have signed the Free and Informed Consent Term (FICT). Both groups were evaluated by a questionnaire including personal data, medical diagnosis and questions related to inclusion criteria, by evaluator blind to the study protocol.

Patients were randomly included according to initial criteria, such age between 18 and 70 years, cervical pain from C₁ to C₇, persisting for more than one month, having or not upper trapezium muscle pain, tension pain and disc bulging, without previous cervical column surgeries, not using psychotropic drugs and not simultaneously participating in another rehabilitation process.

Two groups were randomly formed: one group treated with Fleur de Lis (FL) – G1, and one group treated with Unitary Channel (UC) – G2.

After procedures, patients were evaluated by Roland and Morris visual analog pain scale (VAS), which is commonly used in the literature¹⁹⁻²¹.

Pain intensity classification by VAS (unidimensional scale) is represented by a line with six pain intensity levels: no pain, mild pain, moderate pain, severe pain, very severe pain and almost unbearable pain. Patients were oriented to qualify, in words, the best level that would describe their pain at evaluation, before and after each treatment session, aiming at measuring the duration of tested techniques effects.

After initial evaluation, FL protocol was applied to G1 and UC to G2. Patients were evaluated before and after each session by VAS and initial and final treatment data were compared.

Treatment consisted of 10 weekly sessions. Every session lasted 40 minutes and included pain intensity evaluation, placement of needles, remaining with needles for 30 minutes for the treatment, removal of needles and pain evaluation once again.

After the 10 sessions, patients have returned once a week to evaluate the persistence of analgesic effects after one, two, three and four weeks using the same visual scale.

FL technique protocol consisted in the introduction of the first needle in the region of VG14, located below the spinous process of C₇. Then, four needles were inserted at 1 *tsun* (measure of acupuncture points location) above, below and laterally. Then, four more needles were placed in the intersection of previous needles, as shown in figure 1.

UC technique was applied according to patients' pain, following the table below. Depending on the region, corresponding meridian points of the technique were placed. The first point was contralateral to pain. Then a needle was inserted on the other UC corresponding meridian. Afterward, a needle was placed in the point corresponding to site of maximum pain. And finally, the peripheral meridian point on the affected side associating sedation of maximum pain point, as shown in table 1.

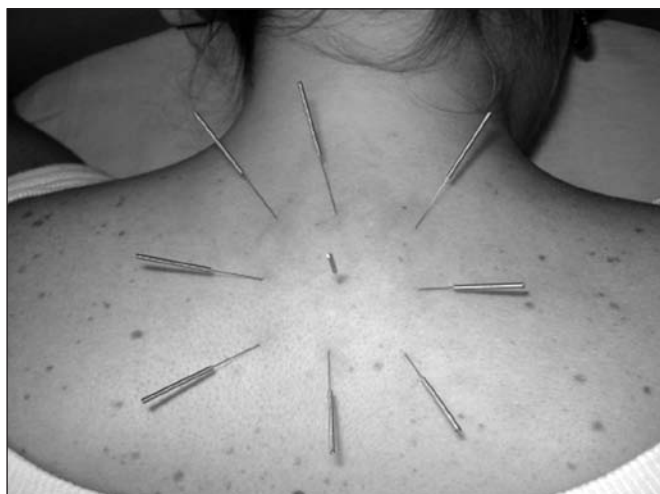


Figure 1. Intersection of needles

Table 1. Unitary channels

Channels	Upper	Lower	Concentration points
Tai Yang	ID2-ID3	B66-B65	B1
Shao Yang	TA2-TA3	VB43-VB41	TA21
Yang Ming	IG2-IG3	E44-E43	E1
Tai Yin	P10-P9	BP2-BP3	VC12
Jue Yin	CS8-CS7	F2-F3	VC18
Shao Yin	C8-C7	R2-R3	VC23

After applying both techniques, Analysis of Variance (ANOVA) and Student's *t* test were used for statistical analysis.

This study was approved by the Institution's Ethics and Research Committee according to protocol 02157012.8.0000.5511 in 06/12/2012.

RESULTS

From 35 evaluated patients only 20 were included in the study according to inclusion criteria and medical diagnosis. The fifteen individuals excluded from the study presented cervicobrachialgia without medical diagnosis, were under pharmacological treatment or had cervical pain for less than one month.

Two research protocols were applied to 20 patients, being 16 females (80%) and 4 males (20%). Of these, 10 have received the UC technique (G2) and 10 have received the FL technique (G1).

In G1, when comparing pre and post application during the ten sessions, it was observed that mean pain intensity was lower, however this difference was statistically significant only in weeks 6 and 7 ($p < 0.01$).

In G2, when comparing pre and post application during the ten sessions it was also observed that pain intensity mean was lower, however it was statistically significant (Table 2)

Table 2. Mean pain intensity

Treatment	Unitary Channel			Fleur de Lis		
	Pre	Post	p value	Preé	Post	p value
1	6.36	4.09	0.0065	5.6	3.8	0.09
2	5.81	3.9	0.01	5.3	3.55	0.16
3	5.73	3.82	0.01	4.22	2.66	0.09
4	5.54	3.63	0.02	3.88	2.33	0.09
5	5	3.36	0.02	3.44	1.77	0.07
6	4.36	2.45	0.003	3.33	1.55	0.01
7	3.81	2.09	0.008	2.66	1	0.01
8	3.72	1.81	0.003	1.77	0.66	0.14
9	3.09	1.18	0.001	1	0.11	0.1
10	2.54	0.9	0.01	0.77	0.1	0.1

in all weeks ($p < 0.01$).

In comparing both groups with regard to pain intensity after the techniques, it was observed, in general, that G1 had lower values as compared to G2, being this result statistically significant ($p < 0.03$ and 0.02), especially in weeks 9 and 10, as shown in figure 2.

After 10 weeks of treatment, patients were followed up for four weeks to evaluate pain intensity. Mean pain intensity found after treatment is shown in table 3.

Both groups had intensity below zero after 10 sessions, however when compared between them there has been no statistically significant difference.

It was also observed that G1, when individually evaluated, had mean pain scores lower than G2. Through the UC technique, it was observed that most affected meridians were triple burner (35%), small intestine (20%) and bladder (20%), followed by gallbladder (15%), large intestine and stomach with 5% each.

In comparing both techniques, it was observed that FL had better immediate response and after 4 weeks, due to more significant pain decrease and individual analysis of pain mean after 4 weeks.

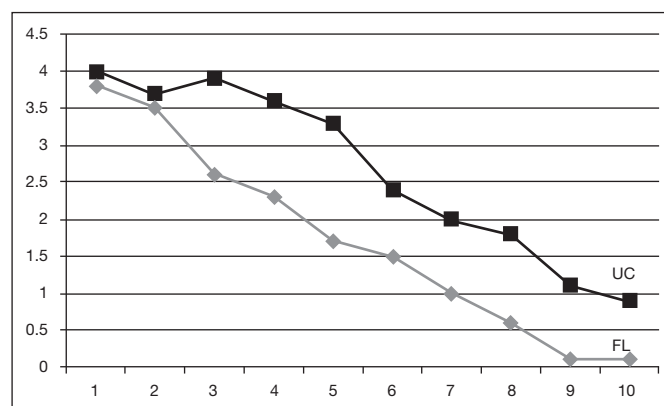


Figure 1. Results after treatment
UC: unitary channel; FL: fleur de Lis.

Table 3. Mean pain intensity in follow up weeks

Weeks	UC	FL	p value
1	0.45	0.1	0.21
2	0.36	0.1	0.34
3	0.63	0.4	0.54
4	0.81	0.4	0.42

UC: unitary channel; FL: fleur de Lis

DISCUSSION

From mid 17th Century to date, acupuncture in China has developed in a way that all peoples who, in a way or another, had contact with this medical modality decided to add it to their therapeutic armamentarium as first choice or coadju-

vant to other type of therapy needed^{6,22}, corroborating this study which adds a rarely used technique as effective treatment to improve cervical pain.

Cervical pain is more frequent among females^{4,5}. Our study shows similar results where 80% were females.

It was noted that FL technique acts efficiently on acute and chronic musculoskeletal pain, by direct treatment of vertebrae, joint discs and spinal adjacent tissues, which is in line with WHO²³ and Silva et al.²⁴. FL is very important for each and every patient with pain induced by paravertebral muscle injury, disc protrusions or hernias. This statement is in line with our study where FL had statistically significant results in improving cervical pain.

Moxabustion is commonly used in FL as additional resource to treatment, aiming at speeding up patients' recovery. Moxa acts by strengthening energy, repelling cold and "drying" moist from energy channels in the surface and in the organs. In addition, it stimulates Qi and Xue circulation and for this reason it is also used for locomotor system pain caused by the pathogenic factor cold¹². Although not using this resource in our study, it was proven that FL is effective for musculoskeletal pain, with or without moxabustion¹⁷.

According to studies^{15,18}, UC technique treats spinal pain with positive effects. In our study, it was observed that UC technique has decreased pain before and after treatment, being also effective to treat cervical pain.

During UC technique application, most affected meridians were triple burner (35%), small intestine (20%) and bladder (20%), different from the literature¹⁴ which emphasizes imbalance of liver, kidney and spleen functions when presented to cervical pain.

Cervical pain has decreased in both groups because it intervenes with an inflammatory process caused by inadequate movement of one or more vertebrae, resulting in intervertebral discs compression and overload of paravertebral ligaments and muscles, thus inducing acute pain and movement limitation in the region^{5,6}.

Treatment with UC, as compared to FL, has shown less pain intensity improvement, probably for being a more complex and systemic (non local) method.

Both techniques have decreased pain during treatment. With regard to FL, pain intensity was lower, that is, the curve was more pronounced than UC pain curve, thus leading to the conclusion that FL has further decreased pain intensity. Both techniques have maintained their effects after 4 weeks. These results are in line with other studies^{14,18}.

It has been observed that professionals seldom use this effective technique²⁴. So the use of this technique for cervical pain is indicated.

CONCLUSION

Both techniques improve pain and maintain their effects after 4 weeks; however FL technique was more effective because it has promoted more pronounced pain relief during treatment, although being seldom used in the literature.

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