

The 2 nd JSAM International Symposium on Evidence-based Acupuncture

## Research Progress on Acupuncture and Moxibustion Treatment of Lumbar Spondylopathy in China

Liu Bao yan

China Academy of Chinese Medical Sciences, China

### *Abstract*

Lumbar spondylopathy falls into category of low back pain and arthromyodynia in Traditional Chinese Medicine. Many of epidemiological data show that 60-80% of the adults have been suffered from it at any one time, which is currently a primary clinical symptoms of lumbar spondylopathy are low back pain, pain and numbness of lower limb, limited activities of lower back, or even loss of self-care ability.

These studies preliminarily demonstrate that acupuncture can significantly improve signs and symptoms of lumbar spondylopathy such as low back pain, pain and numbness of lower limb, walking disability, loss of sensibility, positive straight-leg raising test, and enhance muscle strength and self-care ability. These clinically therapeutic effects showed that acupuncture treatment is obviously superior to any other single method or drug. Meanwhile, no considerable side effects were found in these studies. However, methodology clinical research further improvement, such as control group selection, random hiddenness, blind methods, outcome assessment system and management of clinical data.

To formulate an uniformed standard diagnostic, evaluation efficacy and method of efficacy evaluation should be paid attention to research. Clinical research on acupuncture treatment for low back pain of big sample and multicenter and pragmatic randomized controlled trial should be designed by scholars of transregional and transnational, evaluate curative effect clinical and analysis health economic for therapy of common and effective.: To develop guidelines for clinical practice on low back pain cured by acupuncture and moxibustion which improve effect of diagnosis and therapeutic and management low back pain patient in future.

**Key words:** *Acupuncture and Moxibustion, Lumbar spondylopathy, Research Progress, treatment*

Lumbar spondylopathy falls into category of low back pain and arthromyodynia in Traditional Chinese Medicine<sup>1)</sup>, which is currently a common disease in Department of Acupuncture, including many diseases caused by pathological changes in lumbar intervertebral disc herniation, ligament, vertebral canal, physiological curvature, and vertebral body structure. Primary clinical symptoms of lumbar spondylopathy are low back pain, pain and numbness of lower limb, limited activities of lower back, or even loss of self-care ability<sup>2,3)</sup>.

Many of epidemiological data show that 60-80% of the adults have been suffered from it at any one time,

which is second common clinical symptoms and being inferior to upper respiratory disease currently<sup>4)</sup>. To survey from Tsing dao medical college of China regarding five types of occupation such as the spinning and machine and so on show that prevalence rate of low back pain is 11.5% among 10087 workers<sup>5)</sup>. Lou Yuling and others found that prevalence rate of low back pain is 13.6% among 3012 villagers from southwest Henan province after epidemiological survey<sup>6)</sup>. Gao Mingxuan and others found that prevalence rate of low back pain is 31.5% after investigation into armored forces from northwest high cold area regarding epidemiological,

including 41.3 % among tank soldiers and 19.2% among non-tank soldiers respectively<sup>7)</sup>. Lumbar spondylopathy have been a commonly symptoms which affected people health and it is one of main reasons to make people loss of self-care ability and delay work (table 1).

Etiology of lumbar spondylopathy result from intervertebral physiological degeneration, trauma, inflammatory reaction and congenital. Lumbar spondylopathy is related to age, gender, occupation and physique for patient. Vertebrae and intervertebral dis and surrounding tissue have been caused more than its load capability and result from strain damage by incorrect posture, obesity, pregnancy and so on. Moisture and cold can lead to lower back and back muscle spasm, capillary vessel contract, shortage blood supply of part tissue, obstruction of lymphatic return which all make metabolic product build up resulting in pain<sup>8,9)</sup>. Currently, according to some researches show that some respects will lead to lumbar spondylopathy, such as tiredness, overstrain, energy deficiency and mental factor

Lumbar spondylopathy lack of unified standard of clinical diagnosis and clinical efficacy evaluation, although methods treatment are various<sup>10-13)</sup>. Primary clinical manifestations of lumbar spondylopathy are low back pain, in either one or both sides of wandering pain waist, unable stretching and cough or sneeze, with numbness and weakness muscle of lower limbs, and severe may caused coliosis and spondylolisthesis and dysfunction of urination and defecation, examined by

CT or MRI can help diagnose lumbar spondylopathy<sup>14-15)</sup>.

### Category and quality of research

Most of the small sample and non-randomized clinical observation, research of randomized controll seldom provided, improving quality of research and sample size acupuncture clinical research in future<sup>16-27)</sup>.

2489 Chinese papers published between 1994- 2008 on acupuncture and moxibustion treatment of lumbar spondylopathy were obtained from literature search, which including 351 (14.10%) papers of simple randomized mentioned, 54 (2.17%) papers of detailed introduction of randomized study method of randomized controlled trials, 1518 (60.99%) papers no control group designed and 566 (22.74%) papers although which were designed control groups, but rarely papers of mentioned comparability between trial group and control group, provided statistic method of relevant data processing and evaluated conclusion of between group comparability.

Sham acupuncture and double-blind evaluation of acupuncture treatment has been considered difficulty because sham acupuncture aimed at masking practitioners have been considered unfeasible. Double-blind method was not mentioned in all clinical researches. Only 8 clinical researches was mentioned unknow the packet of valuateator for clinical curative effect and

**Table 1: Epidemiological survey in China**

	researchers	Surveyed occupation	sample size	Prevalence rate(%)
1	ZhengY G and others	worker	10087	11.5%
2	Lou Y L and others	villager	3012	13.6%
3	Gao M X and others	tank soldiers and non-tank soldiers	2456	tank soldiers 41.3%; non-tank soldiers 19.2%

**Table 2: Jadad scale evaluation literatures**

Classification (score)	0	1	2	3	4	5
quantity	2082	351	41	13	0	0
percentage	83.6%	14.1%	1.6%	0.05%	0	0

people of responsibility statistics. Only 13 clinical researches mentioned follow-up survey which include mainly 3 months, 6 months, 1 year.

According to Jadad scale used to assess the quality of clinical trial, analysis and evaluation for these clinical research literature, which found some problem in category and quality of research literature, majority of literature are low quality such as expert experience, without 4 score of literature, 13 papers is 3 score, 41 papers is 2 score, 351 papers is 1 score (table 2).

### **Therapy for acupuncture and moxibustion**

There are many therapy of acupuncture moxibustion involved in, the differences between therapy strict controlled study seldom provided. Therapy of clinical research were mentioned by acupuncture and moxibustion treatment lumbar spondylopathy which include mainly acupuncture, electroacupuncture, acupuncture with warmed needle, fire needle, hydro-acupuncture, moxibustion, acupuncture combined with other methods, including massage, acupotomology, ventouse, Traditional Chinese Drug.

### **Acupoints**

Acupoints of treating acute and subacute lumbar spondylopathy are single acupoint, acupuncture specific acupoints, distant acupoints along meridians and collaterals, such as Yaotongdian (EX-UE7), Shuigou (DU26), Houxi (SI3), Zanzhu (BL-2), Yintang (EX-HN3), choose heavy stimulation manipulation, during retention of the needles combined with patients exercise for lumbar. Acupoints of treating chronic lumbar spondylopathy are local acupoints, Ashi acupoints, differentiate syndromes and signs for acupoints, such as Jiaji (EX-B2), Ashi, Yaoyangguan (DU3), Shenshu (BL23), Dachangshu (BL25), Xiaochangshu (BL27), Guanyuanshu (BL26), Zhibian (BL54), Huantiao (GB30), Chengfu (BL36), Yinmen (BL37), Weizhong (BL40), Yanglingquan (GB34), Fengshi (GB31), Zusanli (ST36), Chengshan (BL57), Kunlun (BL60). Moxibustion and punctured to cause bleeding should be selected according differentiation, combined with patients exercise for lumbar, correct posture, adjustment mental and eliminate moisture and cold.

### **Clinical efficacy evaluation**

Primary clinical symptoms of lumbar spondylopathy are low back pain and functional disturbance lumbar, the two aspects of lumbar are focused on clinical efficacy evaluation. Clinical efficacy evaluation of lumbar spondylopathy include mainly reforming Oswestry Disability Index (ODI) were adopted as overall functions outcome measures, Visual Analogy Score (VAS) and international recognized McGill Pain Questionnaire (MPQ) were adopted as ache outcome measures, SF-36 Health Survey were adopted as quality of life outcome measures<sup>28-29</sup>.

### **The Problem**

#### **1 Lack of uniformed standard diagnostic**

Though there are many diseases caused by lumbar spondylopathy, most of primary clinical symptoms of low back pain and functional disturbance lumbar, different etiology of low back pain, the same methods cured by acupuncture and moxibustion, namely is "the same methods of curing the different disease". Therefore, to formulate uniformed standard of diagnostic, staging, determination of treatment according to differentiation of symptoms and signs are based to high quality of big sample and multicenter of clinical research.

#### **2 Lack of uniformed standard clinical efficacy evaluation**

Though some methods of internationally recognized evaluation are adopted in low back pain and functional disturbance lumbar, but no specialized methods of evaluation clinical efficacy, lack of uniformed standard clinical efficacy evaluation. There are less clinical research in the quality of life, loss of self-care ability and health economic analysis of lumbar spondylopathy.

#### **3 Selection control group of clinical research need to be improved**

No single acupoint randomized control clinical research strictly of treating acute low back pain, more different therapy and different acupoints between group comparability of clinical research often appear, but it is difficult to eliminate placebo effect.

#### **4 Seldom high quality of big sample and multicenter of clinical research**

Random hiddenness, follow-up survey, sample size and management of clinical research data need further improvement.

## The proposal

To formulate an uniformed standard diagnostic, evaluation efficacy and method of efficacy evaluation should be paid attention to research. Clinical research on acupuncture treatment for low back pain of big sample and multicenter and pragmatic randomized controlled trial should be designed by scholars of transregional and transnational, evaluate curative effect clinical and analysis health economic for therapy of common and effective.: To develop guidelines for clinical practice on low back pain cured by acupuncture and moxibustion which improve effect of diagnosis and therapeutic and management low back pain patient in future.

## References

- 1) He J, Ernest Volinn,Zhao Y,et al. Survey of factors of the patient with low back pain seeking for acupuncture treatment and observation on the therapeutic effect of acupuncture at early days. *Chinese Acupuncture & Moxibustion*. 2008, 28(7): 519-21.
- 2) Xie L J, Quan R F, Li Q, et al. Diagnosis and treatment of lumbar disc pain. *Zhejiang Journal of Traumatic Surgery*. 2008, 13(4): 348-9.
- 3) Liu L, Li XX. Diagnosis and treatment of discogenic low back pain. *Medical recapitulate*, 2007, 13(12): 928-30.
- 4) He X Q, Xu Y Q, Zhu Y L. Research progress of epidemiologic in low back pain.*International Journal of Orthopaedics*. 2008, 29(2): 115-6, 122.
- 5) Zheng Y G, Hu Y G, Zhou B W. An epidemiologic study of workers with low back pain. *Chiese Journal of Surgery*, 1994, 32(1): 43-5.
- 6) Lou Y L, Zhang Y, Xu L, et al. An epidemiologic study of low back pain. *Chinese Journal of Traditional Medical Traumatology & Orthopedics*. 1999, 7(1): 44-8.
- 7) Gao M X, Liu X Y, Zhen P, et al. Epidemiological study of low back pain in an armored army in northwestern cold highland. *Journal of Preventive Medicine of Chinese People's Liberation Army*. 2006, 24(5): 339-42.
- 8) Feng S, Tian W, Liu B, et al. The diagnosis and treatment of lumbar spondylopathy. *Medicine & Philosophy (Clinical Decision Making Forum Edition)*. 2006, 27(11): 26-7.
- 9) Huang W Q. Statistical analysis of etiology with lumbar intervertebral disc herniation. *Henan Journal of Surgery*. 2005, 11(4): 50-1
- 10) He C Q, Ding M F. Clinical evidence-based with nonspecific low back pain of rehabilitation treatment. *Chinese Journal of Clinical Rehabilitation*. 2006, 6(14): 2034-46.
- 11) Chen S H, Liu B, Li Y K. Evaluation of clinical common acupuncture and moxibustion therapies and techniques for low back pain. *Journal of Clinical Acupuncture and Moxibustion*. 2007, 23(1): 7-8.
- 12) Lin Q X, Yu H G. Research progress on acupuncture and moxibustion treatment of lumbar intervertebral disc herniation. *Journal of GuangMing TCM*. 2006, 21(2): 56-8.
- 13) Yao S Y. Research progress on acupuncture and moxibustion treatment of lumbar intervertebral disc herniation.*Information on Traditional Chinese Medicine*, 2008, 25(5): 17-8.
- 14) Zhang H, Wang D P, Liu J P. Value of clinical diagnosis for lumbar intervertebral disc herniation.*China Journal of Modern Medicine*. 2004. 14(4): 112-4.
- 15) Li F. Diagnosis and treatment of degenerative lumbar spinal canal stenosis. *Chinese Journal of Bone Tumor and Bone Disease*. 2009, 8(1): 43-5.
- 16) Luo S, Luo S W. Systematic review of acupuncture for treating lumbar intervertebral disc herniation displacement. *Journal of Clinical Acupuncture and Moxibustion*. 2005, 21(6): 10-4.
- 17) Li Q Y, Peng W N, Mu Y, et al. The system evaluation of electroacupuncture for lumbar intervertebral disc herniation. *Modern Journal of Integrated Traditional Chinese and Western Medicine*. 2008, 17(3): 325-30.
- 18) Zhang B M, Wu Y C, Shao P, et al. Electroacupuncture therapy for lumbar intervertebral disc herniation: A randomized controlled study. *Journal of Clinical Rehabilitative Tissue Engineering Research*. 2008, 12(2): 353-5.
- 19) Huang S R, Zhan H S, Shi Y Y. Clinical lumbar function recovering effect of different electroacupuncture points on lumbar intervertebral disc herniation. *Chinese Journal of Rehabilitation Medicine*. 2006, 21(6): 497-500.
- 20) Guo W, Zhang H J. Lin W E. Effect of different acupuncture therapies in improving functional disturbance of waist and limbs in patients with multiple lumbar intervertebral disc herniation at differrent

- stage. Chinese Journal of Clinical Rehabilitation. 2005, 9(2): 184-5.
- 21) Zhuan Z Q, Wang D J. Effect of Electroacupuncture at Baihui and Shenmen on pain in lumbar intervertebral disc herniation. Shanghai Journal of Acupuncture and Moxibustion. 2009, 28(1): 33-5.
  - 22) Ding J J, Xu X P, Han J N, et al. Clinical therapeutic effect and EMG analysis of lumbar intervertebral disc herniation treated by acupuncture and manipulative reduction, Chinese Journal of Rehabilitation. 2006, 21(2): 98-9.
  - 23) Zhang H X, Huang G F, Zhang T F. Clinical study on analgesic effect and influence on the level of serum  $\beta$ -EP of electroacupuncture at jiaji acupoint in patients with lumbar intervertebral disc herniation. Chinese Journal of Traditional Medicinal Traumatology & Orthopedic. 2006, 14(3): 11-5.
  - 24) Huang S R, Shi Y Y, Zhan H S. Dynamic control observation on the clinical analgesic effect of different points electroacupuncture on lumbar intervertebral disc herniation. Chinese Journal of Pain Medicine. 2006, 12(4): 203-6.
  - 25) Meng Q Y. To compare the effect of treating lumbar intervertebral disc herniation with different wave form and frequency of electroacupuncture. Chinese Journal of Clinical Rehabilitation. 2002, 8 (16): 2370, 2375.
  - 26) He X W, Huang J H, Zeng L Y. Observation on the therapeutic effect of warming needle moxibustion on of lumbar intervertebral disc herniation. Chinese Acupuncture & Moxibustion. 2007, 27(4): 264-6.
  - 27) Zhao Q. Methods in acupuncture and moxibustion treatment of lumbar intervertebral disc herniation. Modern Traditional Chinese Medicine. 2007, 27(1): 60-2.
  - 28) Li S C, Guo Z Q. Application of scoring system in patients with lumbar spondylopathy. Chinese Journal of Spine and Spinal Cord. 2005, 15(12) 758-61.
  - 29) He C Q. Research progress of scoring assessment of methods and reliability in low back pain. Chinese Journal of Clinical Rehabilitation. 2002, 6(2): 157-9.