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AN EVALUATION OF EFFECTIVENESS OF ACUPUNCTURE THERAPY APPLIED TO DISTANT POINTS IN LUMBAR DISC HERNIA

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ABSTRACT

Objective: We hypothesized that determining the acupuncture therapy protocol based on the level and lateralization of lumbar disc herniation would be a more correct approach. We therefore planned to enroll patients with bilateral leg pain in addition to lumbar pain. The purpose of this study was to evaluate the effectiveness of acupuncture therapy applied to distant points in patients with lumbar disc hernia.

Methods: This was an observational clinical study. Twenty patients with leg pain in addition to lumbar pain were included. The Existing Pain Severity Scale was administered to patients when they first attended and at the end of treatment. Acupuncture treatment was performed in two sessions per week. The GB 32 (Zhongdu), GB 34 (Yanglingguan), GB 40 (Qiuxu), ST 36 (Zusanli), and BL 60 (Kunlun) acupuncture points, distant points in the treatment of lumbar pain, were selected.

Results: Patients' mean pain score on first arrival was 4.30 ± 0.66, decreasing to 1.40 ± 0.82 at the end of the fourth session of acupuncture therapy. A statistically significant decrease was thus determined in pain severity before and after acupuncture therapy (p=0.001).

Conclusion: Our study shows that acupuncture therapy directed toward the cause and involving distant point application only is effective in patients with lumbar pain. We conclude that treatment protocols applied to fewer acupuncture points will increase patients' compliance with treatment and make a positive contribution to the healing process.

Key Words: Acupuncture, Lumbar Disc Hernia, Pain Management.

Level of Evidence: Retrospective clinical study, Level III

INTRODUCTION

The multiple nature of the causes underlying lumbar pain result in problems concerning treatment [1,11]. Failures in both pharmacological and surgical treatments have led to interest in and research into complementary therapeutic modalities. One such complementary medical procedure is acupuncture, which has recently become increasingly widely used [3].

The analgesic effect of acupuncture has been attributed to gate-control and/or neurohormonal mechanisms [4]. The application of a needle to the acupuncture point results in the release of endogenous opioids through receptor stimulation, and thus in pain control [2,13]. While acupuncture therapy produces an analgesic effect through these mechanisms, it also helps eliminate muscle spasms and rigidity gradually developing secondary to trauma in the skeletal muscles, and particularly the paravertebral muscles.

Conflicting results have been reported in studies of the effects of acupuncture in patients with lumbar pain [5,8]. Discrepancies concerning lumbar pain show that the scientific studies in this area to date are insufficient [10]. Therapeutic approaches involving more specific methods directed toward the causes of lumbar pain would make it easier to collect reliable evidence.

One of the most common causes of lower back pain is lumbar disc herniation. The acupuncture therapy applied to patients with lumbar disc herniation consists of complex treatment protocols involving both close and distant points [9].

In our previous experience, we observed that acupuncture treatment with distal point was effective in patients with lower back pain accompanied by leg pain. We considered that determining the acupuncture therapy protocol on the basis of the level and lateralization of lumbar disc herniation would be a more correct approach. We therefore planned to enroll patients with lateral leg pain in addition to lower back pain. The purpose of this study was to evaluate the effectiveness of acupuncture therapy applied to distant points in patients with lumbar disc hernia.

MATERIALS AND METHODS

This study is an observational clinical research. The participants were selected from patients diagnosed with lumbar disc herniation, with symptoms persisting despite medical treatment and presenting to the acupuncture clinic. Atatürk University ethical committee approval was also obtained. All the patients that were chosen for the study, volunteered for acupuncture treatment. An Existing Pain Severity Scale involving values from 1 to 5 was applied to patients before and at the end of treatment.

Twenty patients with back pain were included in the study. All patients were present in lateral leg pain. Acupuncture treatment was performed in two sessions per week. The GB 32 (Zhongdu), GB 34 (Yanglingguan), GB 40 (Qiuxu), ST 36 (Zusanli), and BL 60 (Kunlun) points, distant points in the treatment of lower back pain, were selected [7] (Figure-1).

Since all patients had lateral leg pain accompanying lower back pain, point selection was based on cardinal points on the meridians localized to the area in question. Sessions lasted 30 min, and steel needles were used. During treatment, the acupuncture needles were inserted to a depth of 1.5-2 cm at the GB 32, GB 34, ST 36 and BL 60 points, and of 1 cm at the GB 40 point, at an oblique or vertical angle (Figure-2,3).

Figure-1. The GB 32 (Zhongdu), GB 34 (Yanglingguan), GB 40 (Qiuxu), ST 36 (Zusanli), and BL 60 (Kunlun) points, distant points in the treatment of lower back pain, were selected.

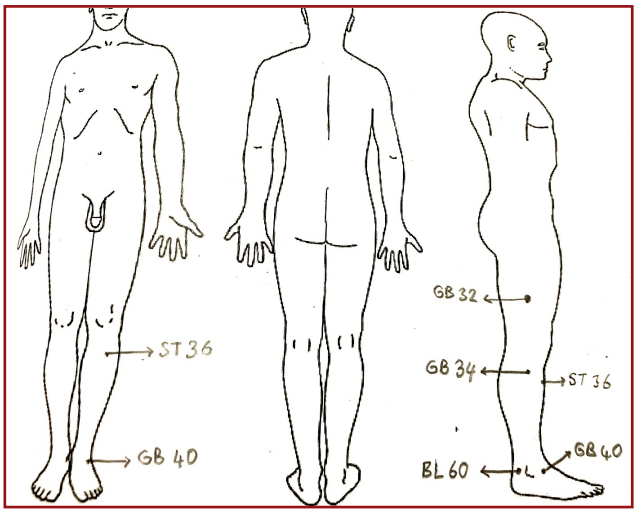

Figure-2. Acupuncture treatment was performed in two sessions per week

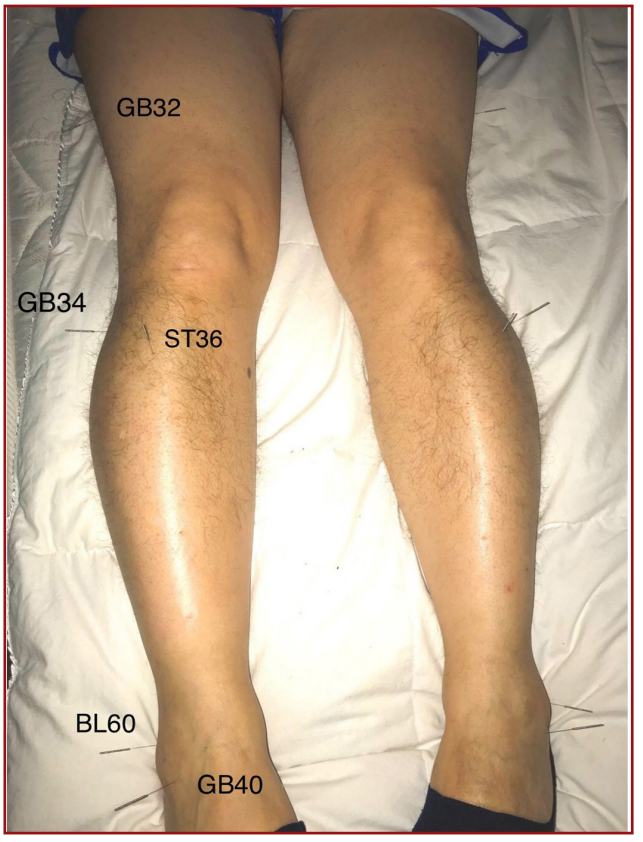

Figure-3. During treatment, the acupuncture needles were inserted to a depth of 1.5-2 cm at the GB 32, GB 34, ST 36 and BL 60 points, and of 1 cm at the GB 40 point, at an oblique or vertical angle

Moxa and modulation methods were not applied Data analysis was performed on SPSS (Statistical Software Package) (PASW Statistics for Windows, Version 16.0. Chicago, SPSS Inc.) software. Demographic data were evaluated with frequency analysis. Existing Pain Severity Scale data were analyzed using ANOVA at repeated measurements in dependent groups. Since the assumption of sphericity was not met according to Mauchly's test ($p< 0.05$), Greenhouse – Geisser corrections were used for F values. Multiple comparisons between repeated measurements were performed using the Bonferroni method.

RESULTS

Twenty patients, 4 men and 16 women, aged between 34 and 76 years were included in the study. Patients' mean age was 52.20 ± 12.47 years, and mean body mass index was 29.33 ± 4.45. A decrease in pain was determined in 19 patients, while no change was observed in one.

Patients' mean pain severity score on arrival was 4.30 ± 0.66, while the mean severity score at the end of the fourth treatment session was 1.40 ± 0.82. The decrease in pain severity after application of acupuncture compared to pretreatment was statistically significant (p=0.001) (Table-1).

Bonferroni -analysis indicated that this decrease was more marked after the first two sessions.

DISCUSSION

A significant decrease in pain occurred following acupuncture therapy applied to the GB 32, GB 80 34, GB 40, ST 36 and BL 60 distant points in patients with lumbar disc herniation presenting with pain diffused to the lateral part of the leg. Studies in the literature have shown a decrease in lower back pain following acupuncture applied to distant points of the ankle and the wrist in addition to application to the ankle alone [12,14].

Our findings also supported the results of the few studies in the literature. These studies show that even acupuncture in which only distant points are selected in patients with lower back pain is promising in terms of providing effective treatment.

According to Bonferroni analysis, the first session of acupuncture therapy produced a significant decrease in pain severity. There is evidence in the literature that even a single session of acupuncture is more effective in reducing the severity of lumbar pain than 'sham' acupuncture [6,12]. The significant decrease in pain severity after the first session in our study is in agreement with studies reporting that acupuncture is effective in lower back pain.

There are studies showing that acupuncture is effective in patients with both acute and chronic lumbar pain. These have mainly been planned on the basis of application to distant points in addition to local points [5,8]. Significant improvement was observed in our study in patients with lumbar disc herniation not responding to medical treatment. These results support previous studies suggesting that acupuncture can be used as an effective treatment in lumbar pain [3,5,7-9,12,14].

In conclusion, our study shows that acupuncture therapy aimed at the cause and involving distant point application alone is effective in patients with lumbar pain. We conclude that treatment protocols applied to fewer acupuncture points will increase patients' compliance with treatment and make a positive contribution to the healing process. We also think that further studies are now needed on this subject.

Acknowledgments

The limitation of this study is the absence of control groups such as a sham acupuncture group, an electro-acupuncture group or an acupuncture group with a combination of 103 local and distant points.

Disclosure statement

The authors declare that they have no conflicts of interest and no financial interests related to the material of this manuscript.

Table-1. Comparison of Existing Pain Severity Scale scores at repeated measurements

	n	Mean ±SD*	95% Confidence Interval		F	P
			Lower Bound	Upper Bound		
On arrival	20	4.30 ± 0.66	3.99	4.60		
First application	20	2.45 ± 0.99	1.98	2.91	87.96	0.001
Second application	20	1.75 ± 0.96	1.29	2.20		
Third application	20	1.50 ± 0.82	1.11	1.88		
Fourth application	20	1.40 ± 0.82	1.01	1.78		

*SD: Standard Deviation

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