

# Our Acupuncture Experiences in Patients with Remarkable Leg Syndrome: Pilot Study

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## Abstract

Restless legs syndrome (RLS) is a disease characterized by an undescrivable abnormal sensation, a kind of dysesthesia, especially in the legs. It is characteristic for restless legs syndrome that the symptoms are circadian in nature, that is, they are more pronounced in the evening and at night, and occur or increase at rest. In response to these effects, when the effects of acupuncture on various systems and symptoms and the mechanisms of these effects are evaluated, the benefits of acupuncture in restless legs syndrome may be the subject of research. This study was carried out on patients who applied to Konya Necmettin Erbakan University Meram Medical Faculty Traditional and Complementary Medicine Center with the complaints of restless legs syndrome. In addition, nothing was requested from the participants. Informed consent form was obtained. Both body and ear acupuncture were applied for 10 sessions once a week. ST-33,34,35,GB-34, H-7LU-9,P-6,SI-3 points and shen-men,zero,knee on the ear , depression points were pricked. Electro acupuncture was applied for 20 minutes.) Pittsburgh sleep quality index scale questionnaire and john hopkins scale were applied to the participants before and after acupuncture. .Pittsburgh sleep quality index mean pre-acupuncture:35.5.Post acupuncture Pittsburgh sleep quality index mean:24. With the application of acupuncture, progress can be made in the treatment of restless legs syndrome that does not respond to conventional treatment.

**Key words;** acupuncture; restlegs syndrome; pittsburg

## Introduction

Restless legs syndrome (RLS) is a disease characterized by an undescrivable abnormal sensation, a kind of dysesthesia, especially in the legs. This abnormal sensation, dysesthesia, is the cause of the irresistible need to move and motor restlessness. Periodic movement disorder in sleep (UPHB) is a disorder that recurs periodically during sleep and is shaped by highly stereotypical foot, leg and/or arm movements. It has the characteristic features of UPHB, with the frequent coexistence of RLS and UPHB and the onset and deepening of movements, sleep, associated with restless legs syndrome. This suggests that these two diseases are two different clinical manifestations of a common central nervous system (CNS) disorder. Both diseases increase with age and cause insomnia. Some patients have difficulty waking up and falling asleep again with abnormal sensations in their extremities during the night. In some studies, considering the complaints of many patients, it is noted that the arms are also affected [1, 2].

It is characteristic for restless legs syndrome that the symptoms are circadian in nature, that is, they are more pronounced in the evening and at night, and occur or increase at rest. In response to these effects, when the effects of acupuncture on various systems and symptoms and the mechanisms of these effects are evaluated, the benefits of acupuncture in restless legs syndrome may be the subject of research.

As a result of our literature review, it has been determined that the effect of acupuncture in patients with restless legs syndrome has not been studied. In this context, we think that our study will contribute to the existing knowledge and that acupuncture, which will be applied in addition to the treatment of patients with restless legs syndrome, will help patients with a relaxing effect on their pain [1, 2].

## Method

This study was carried out on patients who applied to Konya Necmettin Erbakan University Meram Medical Faculty Traditional and Complementary Medicine Center with the complaints of restless legs syndrome. In addition, nothing was requested from the participants. Informed consent form was obtained. Both body and ear acupuncture were applied for 10 sessions once a week. ST-33,34,35,GB-34, H-7LU-9,P-6,SI-3 points and shen-men,zero,knee on the ear , depression points were pricked. Electro acupuncture was applied for 20 minutes.) Pittsburgh sleep quality index scale questionnaire and john hopkins scale were applied to the participants before and after acupuncture.

## Findings

Total 20 patients are included.2 male, 18 female patient. 12 patient's pre-acupuncture john Hopkins scale :3(severe), 5 patients:2(moderate), others

:1(mild). While there was no change in the John Hopkins scale in those who received medical treatment only, 1 value decrease was observed in those who received acupuncture. Pittsburgh sleep quality index mean pre-acupuncture:35.5  
Post acupuncture Pittsburgh sleep quality index mean: 24.

## Discussion

Traditional Chinese Acupuncture has a history of about 3000 years. Acupuncture is applied to the skin and subcutaneous muscle tissue with acupuncture needles such as steel, silver and gold to the acupuncture point. By inserting the acupuncture needle into the skin, the skin and subcutaneous muscle tissue are affected by all kinds of stimuli. Thus, it causes the release of endogenous opioids, which are known to have a role in pain control, by stimulating pain receptors, that is, free nerve endings. When the pain control system is activated, neurons originating from the mesencephalon, periaqueductal gray matter and periventricular region send their impulses to the raphe magnus nucleus and nucleus reticularis paragigantocellularis. From here, the impulses descend into the dorsal column of the spinal cord and the pain-inhibitory complex located in the dorsal horn of the spinal cord. Considering this metabolism on a large scale, it is thought that acupuncture has a great effect in the treatment of pain.

in humans [3] and rats [4], it was determined that stimulation of the muscle under the acupuncture point with a low-frequency current with a force that can cause contraction produced acupuncture analgesia, while it was observed that the current with the same characteristics applied to a point without an acupuncture point did not cause analgesia. The occurrence of analgesia as a result of stimulation of the acupuncture point was related to inhibition of neural activity in the dorsal periaqueductal gray area and brainstem reticular formation, and it was observed that acupuncture analgesia lost its effect with hypophysectomy and application of betaendorphin antiserum into the third ventricle [5].

In order to suppress the pain signals entering the nervous system, a pain control system called the brain analgesia system is activated. Penetration of the acupuncture needle causes the release of endogenous opioids, which are known to have a role in pain control by stimulating pain receptors, namely free nerve endings. When the pain control system is activated, neurons coming out of the mesencephalon, periaqueductal gray matter and periventricular region send their impulses to the rafe magnus nucleus and nucleus reticularis paragigantocellularis. From here, stimuli descend into the dorsal column of the spinal cord and the pain-inhibitory complex located in the dorsal horn of the spinal cord. Neurotransmitters such as betaendorphin (BE), enkephalin and serotonin play a role in the

analgesia system. Enkephalin is secreted from most of the fibers originating from the periaqueductal gray matter and periventricular nuclei and ending in the nucleus of the raphe magnus.

Acupuncture application affects the nervous system [6] and it is observed that it causes changes in the concentrations of K<sup>+</sup>, Na<sup>+</sup>, and Ca<sup>+</sup> in neurons (30), the amounts of neuropeptides such as beta endorphin and leucine enkephalin, and neurotransmitters such as aspartate in the central nervous system [6, 7] and they state that EA application causes a strong invariant in neuronal action potential.

Today, acupuncture is the preferred practice in the treatment of pain in most pain clinics. In the United States, approximately one million patients with pain syndrome are applied acupuncture annually [8].

## Conclusion

With the application of acupuncture, progress can be made in the treatment of restless legs syndrome that does not respond to conventional treatment.

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