

Therapeutic Effectiveness of Hijama in Sciatica Pain

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Abstract

Hijama is an alternative mode of treatment also known as cupping therapy. It involves removal of subcutaneous stagnant blood through suction cups after making superficial incisions at particular area of the body. This study was undertaken to evaluate the efficacy of hijama in sciatica pain at Aligarh Shifa hospital. 92 patients with the history of sciatica were selected randomly between 18 - 75 years of age and hijama cups were applied generally at C7, T2 and L5/S1 vertebrae, while two cups were also applied bilaterally on L4/L5 vertebrae, four cups were additionally applied on hip joint, back of thigh, knee and calf muscle, all cups were applied thrice at an interval of 15 days between each session. The decrease in sciatic pain was assessed after three sessions of Hijama by numeric pain rating scale there was overall significant reduction in pain with 67 percent patients showing relief in pain up to varying degree. Present study suggests that hijama has been found to be effective in relieving pain and improving quality of life in majority of the patient's, hence may be used as effective alternative tool to alleviate pain.

Keywords

Pain, Sciatica, Hijama, Cupping Therapy

1. Introduction

Cupping or Hijama is the procedure of making superficial incisions on the skin and applying cups to draw out blood, lymph or other fluids present subcutaneously. Typically, the cups were made of glass, but now disposable plastic cups were frequently used. In older days, cups made of bamboo, bone, horn, clay or metal were in use [1]. Many studies have been done to evaluate the efficacy of cupping therapy or hijama in various disorders such as

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low back pain [2], migraine headache [3], neck pain [4], results show that Hijama has been effective in reducing severity of symptoms without any serious adverse effects.

Sciatica is characterized by an excruciating pain originating from hip joint, radiating throughout the leg and terminates at toe. Numbness of leg upon standing or walking also accompanies the pain in leg in most of the cases [5].

The cause is usually compressed sciatic nerve at the level of L4/L5 due to disc herniation, disc prolapse, muscular spasm of lower back muscles, loss of lumbar lordosis, lifting heavy weights at wrong angles, carrying wallet in hip pocket, wrong postures while sitting and standing accompanied by vitamin D deficiency and resulting calcium depletion [6]. It may also be caused due to the compression of a dorsal nerve root at the level of S1, S2 and S3 sacral nerves [7].

In case of lumbar spinal stenosis, bone spurs, protruded disc, spondylolisthesis, spinal canal is narrowed this in turn compresses the structures inside the spinal canal *i.e.* spinal cord, caudal equine, or sciatic nerve roots. The compression of spinal cord pinches the nerves that leave the spinal cord causing pain.

Whether sciatica arises due to Piriformis syndrome or not is an arguable stance, but it has been found contributing up to 8% of low back or hip pain. In some patients, Sciatic nerve runs through, or below the Piriformis muscle. Any injury or overuse results in muscular spasm which in turn compresses the sciatic nerve. Piriformis syndrome is also known as “wallet sciatica” *i.e.*, if a wallet carried in a rear hip pocket pressurizes the hip muscles and sciatic nerve when the person sits down on it. In this syndrome sciatic pain occurs but the nerve root is normal [8].

Sciatica is also a very common condition in pregnancy since fetal weight compresses the sciatic nerve while sitting or during leg muscle cramps. This compression leads to the numbing of legs, which can cause loss of balance and tumbling. Sciatica is mostly reversible and no treatment is suggested during pregnancy.

Patients with a history of car accident or spinal trauma may complain about sciatica. Spinal tumors or caudal equine syndrome may also compress the spinal cord and its nerve roots. In such conditions symptoms include severe pain starting from back and radiating towards hip and feet, loss of bladder or bowel control, or muscle weakness.

Herniation of a disc is a pathology characterized by the extrusion of the liquid nucleus pulposus through the crack in external annulus fibrosus, compressing the nerve root against the lamina of a vertebra, thus causing sciatica. Bulging disc may cause inflammation and swelling of surrounding tissue, which further increase the compression of the nerve root within the spinal canal [9].

Physical examination and the history of the symptoms always help in diagnosing sciatica. If patients give a history of radiating pain in one leg associated with some neurological signs of nerve root compression, sciatica can be confirmed [10].

Straight leg test is the crucial key of diagnosis if produces Lasegue’s sign. Straight leg is passively flexed between 30 - 70 degrees, if pain begins in the passage of the sciatic nerve, the result is considered to be positive. There is a possibility of positive result in about 90% of patients, but around 75% of people with a positive result do not have sciatica.

Objective of the study is to evaluate the therapeutic efficacy and safety of Hijama in the patients of sciatica using the improvement in the degree of pain through numeric pain rating scale.

2. Methods

2.1. Design of Study

The study was designed to evaluate the therapeutic effectiveness of hijama in patients having sciatica pain, after approval from the ethical committee of Aligarh Shifa hospital and fulfill the guidelines of the Helsinki Declaration to conduct study on humans. The patients were required to fill a consent form duly signed by them acknowledging their free will to participate in the study. 92 patients between 30 to 60 years of age were recruited randomly and pain was evaluated using numeric pain rating scale (NPRS).

Hijama cups were generally applied at C7, T2 and L5/S1 vertebrae, while two cups were also applied bilaterally on L4/L5 vertebrae, four cups were additionally applied on hip joint, back of thigh, knee and calf muscle, all cups were applied thrice at an interval of 15 days between each session.

2.2. Inclusion Criteria

Patients suffering from sciatica due to sciatic nerve compression and receiving analgesics were included in the

study.

2.3. Exclusion Criteria

The patients suffering from pain in leg due to any reason other than sciatic nerve compression were excluded from the study; moreover severely anemic patients with hemoglobin level below 8 gm/dl were also excluded.

2.4. Hijama Procedure

Hijama was accomplished after 15 days on each patient at particular sites in following manner:

- 1) The site of hijama was cleaned with 75% alcohol swabs.
- 2) A 25 ml sterilized cup was placed on the site and vacuum was produced through manual vacuum pump, enough to attach the cup to the skin and maintain a suction force on the site.
- 3) The cup was detached after 5 minutes to make superficial incisions with the help of a sterilized surgical blade and was again placed on the site as described above.
- 4) After 5 - 10 minutes the cup was finally removed and subcutaneous blood collected in the cup was safely discarded.
- 5) The incised area under the cup was cleaned with medicated wipes and honey was applied, then sterilized gauze was placed and secured with a tape.

2.5. Statistical Analyses

The data was analyzed statistically using paired t-test with 95 % confidence interval assuming equal variances through minitab.

3. Results

92 male patients residing in Karachi and having sciatica for an average of 6 months were subjected to hijama with an average of 3 sessions per patient. Patients were distributed in 3 age groups; 36 patients aged between 31 to 40 years, 36 patients aged between 41 to 50 years and 20 patients were aged between 51 to 60 years. Pain was assessed on numeric pain rating scale (NPRS). The results show that 85% relief in pain was observed in 9.8 percent of patient's, 15.21 percent patient's experienced 70% relief, 5.43 percent patient's experienced 60% relief in pain, 9.78 percent patients experienced 50% relief in pain, 9.78 percent patients experienced 40% relief in pain, however 32.60 percent patients did not showed any relief in pain after 3 sessions of hijama (**Table 1**).

Table 2 presents the average relief in pain experienced by patients on numeric pain rating scale after hijama showing a highly significant decline *i.e.* 4.89 ± 0.98 as compared to before Hijama *i.e.* 10 ± 0.0 .

Table 1. Comparison of Pain Intensity before and after Hijama.

NPRS before hijama	NPRS after hijama	Number of Patients relieved from pain	% Relief from pain	Average sessions
10	1	4	90	3
10	2	5	80	3
10	3	14	70	3
10	4	5	60	3
10	5	9	50	3
10	6	9	40	3
10	7	9	30	3
10	8	7	20	3
10	10	30	0	3

Total number of patients = 92.

Table 2. Average Decrease in Pain Intensity after Hijama.

Parameter	Before Hijama value	After hijama value
NPRS	10.00 ± 0.0	4.89 ± 0.98**

N = 92; Average values ± S.E.M; **p < 0.001 highly significant as compared to control.

4. Discussion

Although there is no treatment option available through medicine for sciatica, the only possible intervention which can cure the condition is surgery [11]. However, hijama was found to be very effective in 67 percent of the patients experiencing severe sciatic pain due to disc prolapse or herniation at the L4/L5 vertebrae. This might be due to the improved blood circulation as a result of removal of congested blood, toxic materials and inflammatory extravasations present subcutaneously at the site of pain [12].

The mechanism behind the relief is not clearly understood but the hypothesis in view of the authors is the removal of gel (which comes out of the cracked intervertebral discs) which applies pressure on the sciatic nerve. The gel is removed through enhanced blood circulation in that area due to cupping. As we know that cupping improves the blood and lymph flow by removing the stagnant blood and lymph present subcutaneously.

This hypothesis could not be confirmed due to a limitation in study that post hijama MRI scans could not be obtained due to several reasons

The mobility was also much better as compared to before hijama condition. No side effects were reported after the treatment of sciatica. Some of the patients reported significant relief after the first session of the treatment [13].

5. Conclusion

Hijama was found to be very effective in relieving the pain due to sciatica without causing any adverse effects. Hence it may highly be recommended for patients suffering from sciatica to avoid adverse effects by the continuous use of NSAIDs and to make an attempt before going for surgery which is seldom successful and possesses high risk.

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Ethical Statement

“All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.” Each Individual involved in the study has given informed written consent.

Conflict of Interest Statement

None of the author involved in the study has received any financial assistance from any organization and there is no conflict of interest to declare.

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