Observation of the effect of Qiao' s medicine storage jar in improving lumbar pain in patients with cold-dampness stagnation type

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Abstract

Objective: To investigate the clinical efficacy of Qiao' s medicinal cupping therapy in patients with lumbar muscle strain of the cold-dampness obstruction type.

Methods: A total of 111 patients with cold-dampness obstruction type low back pain admitted to the Department of Spine Surgery, Gansu Provincial Hospital of Traditional Chinese Medicine from October 2023 to October 2024 were selected and randomly divided into a control group (balanced cupping method), observation group 1 (Qiao' s cupping method), and observation group 2 (Qiao' s medicinal cupping method), with 37 cases in each group. The Japanese Orthopaedic Association (JOA) Back Pain Evaluation Questionnaire, Short-Form McGill Pain Questionnaire (SF-MPQ), and Oswestry Disability Index (ODI) were used to evaluate the efficacy before treatment, after one course of treatment, and after two courses of treatment.

Results: There were no significant differences in baseline characteristics among the three groups before treatment ($P > 0.05$), indicating comparability. At the end of treatment, observation group 1 and observation group 2 showed significantly better results in improving clinical symptoms such as low back pain compared to the control group ($P < 0.05$). In the inter-group comparison at the same time points, there was no statistically significant difference between observation group 1 and the control group at time point t_1 ($P > 0.05$), whereas the difference between observation group 2 and the control group was statistically significant ($P < 0.05$); observation group 2 also showed a significant difference compared to observation group 1 ($P < 0.05$). At time point t_2, both observation group 1 and observation group 2 showed significant differences compared to the control group ($P < 0.05$), and observation group 2 demonstrated a more pronounced advantage compared to observation group 1 ($P < 0.05$). Intra-group

comparisons showed that as the course of treatment progressed, the clinical differences within the three groups were statistically significant ($P < 0.05$).

Conclusion: Qiao' s medicinal cupping can effectively alleviate pain in the lower back and lower extremities, improve lumbar spine function, and enhance self-care ability. Compared with balanced cupping and Qiao' s balanced cupping, its clinical efficacy is more significant and warrants clinical promotion and application.

Full Text

Preamble

Observation of the Effects of Qiao' s Medicinal Storage Jar in Improving Lumbar Pain in Patients with Cold-Dampness Obstruction Syndrome

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Abstract

Objective: To observe and evaluate the clinical efficacy of Qiao' s medicinal storage jar therapy in treating patients with lumbar pain characterized by the Cold-Dampness Obstruction syndrome.

Methods: A total of 111 patients with Cold-Dampness Obstruction type low back pain, admitted to the Department of Spinal Surgery at Gansu Provincial Hospital of Chinese Medicine from October 2023 to October 2024, were randomly assigned into three groups: a control group (balanced cupping therapy), observation group 1 (Qiao' s cupping therapy), and observation group 2 (Qiao' s medicinal storage jar therapy), with 37 cases in each group (final analysis included 107 cases due to dropouts). Clinical efficacy was evaluated before treatment (t_0), after one course of treatment (t_1), and after two courses of treatment (t_2) using the Japanese Orthopaedic Association (JOA) score, the Short-Form McGill Pain Questionnaire (SF-MPQ), and the Oswestry Disability Index (ODI).

Results: Baseline characteristics among the three groups showed no significant differences ($P > 0.05$). At the end of the treatment, observation groups 1 and 2 showed significantly greater improvement in clinical symptoms compared to the control group ($P < 0.05$). Specifically, observation group 2 demonstrated a statistically significant advantage over both the control group and observation group 1 at both t_1 and t_2 ($P < 0.05$). Intra-group comparisons revealed that

clinical improvements within all three groups were statistically significant as the number of treatment courses increased ($P < 0.05$).

Conclusion: Qiao's medicinal storage jar therapy effectively alleviates low back and lower limb pain, improves lumbar spine function, and enhances activities of daily living. Its clinical efficacy is superior to balanced cupping and standard Qiao' s cupping, making it worthy of clinical promotion.

Keywords: Balanced cupping therapy; Qiao' s cupping; Qiao' s medicinal storage jar therapy; Cold-dampness obstruction type low back pain; Efficacy observation

1. Introduction

Lumbar Disc Herniation (LDH) is a clinical syndrome caused by intervertebral disc degeneration and the rupture of the annulus fibrosus, leading to the protrusion of nucleus pulposus tissue that stimulates or compresses the cauda equina or nerve roots [**?**]. As of 2020, the number of individuals suffering from lumbar spine disorders in China exceeded 200 million, with LDH patients accounting for approximately 15.2% of the national population [**?**].

In Traditional Chinese Medicine (TCM), LDH falls under the categories of "Lumbar Pain" and "Bi Syndrome." The Cold-Dampness Obstruction type is a common clinical manifestation, characterized by soreness, heaviness, and pain that exacerbates in cold or humid environments. The Gansu region, with its high altitude and cold climate, makes the local population particularly prone to this constitution.

While traditional cupping therapy is widely used to reduce intradiscal pressure and improve circulation, its effects can be limited by the lack of sustained medicinal penetration. Qiao' s medicinal storage jar therapy is an innovative TCM technique developed at the Gansu Provincial Hospital of Traditional Chinese Medicine. By storing a specific herbal decoction within the cup, it combines mechanical negative pressure with the pharmacological properties of warming and cold-dispelling herbs. This study aims to provide clinical evidence for the efficacy of this method in treating Cold-Dampness Obstruction type lumbar pain.

2. Materials and Methods

2.1 General Data

A total of 111 patients with Cold-Dampness Obstruction type LDH receiving conservative treatment at the Department of Minimally Invasive Spinal Orthopedics, Gansu Provincial Hospital of Traditional Chinese Medicine, were selected.

Diagnostic Criteria: Based on the 2020 "Guidelines for the Diagnosis and Treatment of Lumbar Disc Herniation" and the 1994 "Criteria for Diagnosis and Therapeutic Effect of TCM Syndromes" [**?**]. Symptoms include radicular pain, sensory abnormalities, and positive nerve tension tests (e.g., straight leg raise test).

Inclusion/Exclusion: Included patients aged 18–65 with confirmed LDH. Excluded those with severe cardiovascular/renal diseases, skin infections at the site, or those requiring urgent surgery.

2.2 Treatment Methods

1. **Routine Care:** All groups received guidance on bed rest, dietary nursing (warming foods like mutton and ginger), psychological support, and oral Etoricoxib (60 mg/day).
2. **Control Group:** Received balanced cupping (flash cupping, moving cupping, and 10-minute retained cupping) along the Governor Vessel and Bladder Meridians.
3. **Observation Group 1:** Received Qiao' s Cupping, utilizing a "seven-petal plum blossom" pattern around the Ashi point (pain point) with cups retained for 10 minutes.
4. **Observation Group 2:** Received Qiao' s Medicinal Storage Jar therapy. 10 ml of "Shujin Huoluo Lotion" (warmed to 45°C) was added to each cup before application using the fire-flash method. The lotion contains *Olibanum*, *Myrrha*, *Angelicae Sinensis Radix*, and other herbs prepared in a mixture of wine, vinegar, and water.

Treatments were performed once daily for 3 days (one course), with a 3-day interval between two courses.

2.3 Observation Metrics and Efficacy Criteria

Evaluations were conducted at t_0 (baseline), t_1 (after 1 course), and t_2 (after 2 courses) using: - **JOA Score:** For clinical severity. - **SF-MPQ:** For pain intensity (PRI, VAS, PPI). - **ODI:** For functional disability.

Efficacy was categorized as **Cured** (symptoms gone, straight leg raise >70°), **Improved** (reduced pain, better mobility), or **Unresolved**.

2.4 Statistical Analysis

Data were analyzed using SPSS 24.0. Quantitative data are expressed as $\bar{x} \pm s$. Comparisons between groups used ANOVA or rank-sum tests, and intra-group comparisons used repeated measures ANOVA. $P < 0.05$ was considered statistically significant.

Figure 1

Figure 1: Figure 1

3. Results

3.1 Baseline Comparison

Of the 111 patients, 107 completed the study (Control: 34; Obs 1: 36; Obs 2: 37). There were no significant differences in age, gender, or disease duration between groups ($P > 0.05$).

3.2 JOA Low Back Pain Scores

All groups showed improvement over time ($P < 0.05$). At t_2, Observation Group 2 (40.65 ± 2.50) significantly outperformed Observation Group 1 (30.63 ± 2.27) and the Control Group (25.63 ± 1.30) ($P < 0.05$).

3.3 SF-MPQ and ODI Scores

Observation Group 2 showed the most significant reduction in pain and disability scores. At t_1 and t_2, the ODI scores for Observation Group 2 were significantly lower than the other two groups ($P < 0.05$), indicating superior functional recovery.

3.4 Clinical Efficacy

The recovery rate in Observation Group 2 (47.75%) was higher than in Observation Group 1 (45.40%) and the Control Group (21.15%).

3.5 Adverse Reactions

Adverse reactions were mild and transient, including localized skin redness (10%), slight initial pain increase (5%), and pressure discomfort (3%). All symptoms resolved spontaneously or with minor adjustments.

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4. Discussion

Lumbar pain of the Cold-Dampness Obstruction type is characterized by "pain due to obstruction." Qiao' s medicinal storage jar therapy addresses this by combining the mechanical suction of cupping with the thermal and pharmacological effects of TCM decoctions.

The negative pressure and 45°C heat increase local vascular permeability, allowing medicinal ions from the "Shujin Huoluo Lotion" to penetrate the skin directly. This bypasses the first-pass metabolism of oral drugs and concentrates

the therapeutic effect at the lesion site. The "seven-petal plum blossom" arrangement used in Qiao' s method effectively "blocks" pathogenic factors and stimulates holographic zones on the back.

Our findings demonstrate that this integrated approach is significantly more effective than standard cupping in relieving pain and restoring lumbar function. The therapy is safe, with a low incidence of adverse effects, making it a valuable conservative treatment option for LDH.

References

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