Treatment Plan for Intervertebral Disc Herniation Syndrome Based on Traditional Chinese Medicine

Han Lehao

The Academy Europe of Europen University Alumni Association

Abstract

At present, people's understanding of intervertebral disc herniation is incomplete. Intervertebral disc herniation does not mean the disc "falling out" from between two vertebrae, but rather the rupture of the annulus fibrosus, with the nucleus pulposus protruding and compressing surrounding ligaments and muscles, resulting in space-occupying compression on the spinal cord and nerve roots. The nucleus pulposus cannot be repositioned by manual manipulation. Additionally, the so-called "secondary or recurrent attacks" of intervertebral disc herniation in clinical practice are not due to repeated protrusion of the disc itself, but rather muscle contraction, tension, injury, degeneration, hardening, thickening, and adhesion, which stimulate or compress nerves and cause sciatica. This paper explores a treatment plan for intervertebral disc herniation syndrome based on traditional Chinese medicine (TCM), integrating TCM theory with modern medical insights to provide a reference for clinical practice.

Keywords

Intervertebral disc; Nucleus pulposus; Nerve; Intervertebral disc herniation; Traditional Chinese medicine; Treatment plan

1. Introduction

Intervertebral disc herniation syndrome is a common degenerative spinal disorder. Its high incidence and recurrent nature severely impact patients' physical and mental health, as well as their quality of life. Changing lifestyles—such as prolonged sitting and poor posture—have led to a rising incidence, with a trend toward younger populations. Modern medicine primarily uses drugs or surgery for treatment, but these have limitations, including side effects, surgical risks, and postoperative recurrence. TCM, with its long history and rich experience in treating musculoskeletal disorders, offers a unique perspective through its holistic approach and syndrome differentiation. Thus, exploring TCM’s theoretical foundations and practical methods to develop a scientific, effective treatment plan holds significant clinical and practical value.

2. Modern Medical Understanding of the Intervertebral Disc and Intervertebral Disc Herniation

2.1 Anatomy and Physiological Functions of the Intervertebral Disc

Anatomically, the intervertebral disc is a fibrocartilaginous structure connecting adjacent vertebrae. Adults have 23 discs, excluding those between the first and second cervical vertebrae

and the sacrococcygeal region. It consists of the peripheral annulus fibrosus and the central nucleus pulposus:

- Annulus fibrosus: A multi-layered, ring-shaped fibrocartilaginous structure, tough and elastic, firmly attached to the periphery of the upper and lower vertebrae. It encloses and restrains the nucleus pulposus, preventing it from protruding outward. The anterior annulus fibrosus is wider, while the posterior part is narrower and weaker, making it prone to injury and rupture.
- Nucleus pulposus: A water-rich, soft, and elastic gel-like substance located slightly posterior to the center of the disc, enclosed by the annulus fibrosus. When compressed, the nucleus pulposus flattens and tends to bulge outward, returning to its original shape when pressure is relieved—acting like a cushion to absorb shocks and protect vital organs such as the brain.

The disc's key physiological functions include: connecting adjacent vertebrae to maintain spinal stability; bearing weight and absorbing shocks to reduce impact on the spine and central nervous system; and enabling spinal mobility (e.g., flexion, extension, lateral bending) by adapting its shape during movement.

2.2 Pathological Mechanism of Intervertebral Disc Herniation

In adults, discs undergo degenerative changes, including reduced water content in the nucleus pulposus, decreased elasticity, and weakened annulus fibrosus. Combined with factors like overexertion, sudden posture changes, strenuous movement, or trauma, this can cause annulus fibrosus rupture. The nucleus pulposus often protrudes posteriorly (especially posterolaterally), occupying the spinal canal or intervertebral foramen and compressing the spinal cord or nerve roots—resulting in intervertebral disc herniation. The lumbar region is most commonly affected due to its heavy load and frequent movement.

3. Pathological Changes and Recurrence Mechanism of Intervertebral Disc Herniation

3.1 Key Pathological Changes

Intervertebral disc herniation triggers a cascade of pathological changes:

1. Rupture of the annulus fibrosus: The initial event, disrupting its ability to contain the nucleus pulposus.
2. Protrusion of the nucleus pulposus: The nucleus pulposus protrudes through the ruptured annulus fibrosus into the spinal canal or intervertebral foramen.
3. Vertebral malalignment: Protrusion and surrounding tissue changes cause vertebral torsion, with displacement of bony processes and facet joints.
4. Intervertebral ligament injury: Vertebral misalignment and tissue strain damage ligaments, further compromising spinal stability.
5. Narrowing of the intervertebral foramen: Torsion, joint displacement, and tissue swelling narrow the foramen, compressing nerve roots and causing neurological symptoms.

Notably, the protruding nucleus pulposus does not directly compress nerve roots; instead, it creates space-occupying compression. For simple cases, bed rest and anti-inflammatory/dehydration therapy often relieve symptoms within a week.

3.2 Causes of Recurrence

Recurrent sciatica with lumbogluteal symptoms arises primarily from:
Degeneration, cold exposure, or external forces cause the ruptured annulus fibrosus to weaken surrounding muscles, narrowing the intervertebral space. Vertebrae lose stability, twist, and re-displace, narrowing the foramen. Repeated muscle injury leads to edema, hemorrhage, and hematoma, acutely compressing nerve roots and triggering pain.

Claims of "re-herniation" are inaccurate. The protruding nucleus pulposus—being gel-like and non-regenerative—loses water and is absorbed by surrounding tissues, making repositioning impossible. Long-term imaging shows persistent disc protrusion because ligament damage from the initial event impairs spinal stability, leading to recurrent vertebral torsion.

Post-manual therapy, residual leg pain may occur due to adhesions between edematous muscles and nerve synovium, which stretch during movement. Additionally, muscle contraction, tension, or degeneration can irritate nerves, causing sciatica.

4. TCM Understanding of Intervertebral Disc Herniation Syndrome

4.1 Etiology and Pathogenesis

In TCM, this syndrome falls under "lumbago," "arthralgia," or "lumbocrural pain." Its causes include:

- External pathogens: Wind, cold, and dampness block meridians, stagnating qi and blood ("pain from obstruction"), as noted in Su Wen·Bi Lun: "Wind, cold, and dampness combine to cause arthralgia."
- Internal strain: Prolonged overwork, sitting/standing, or poor posture depletes lumbar qi and blood, starving muscles and bones (Su Wen·Xuan Ming Wu Qi Pian: "Prolonged sitting injures muscles; prolonged standing injures bones").
- Liver-kidney deficiency: The liver governs tendons, and the kidney governs bones. Deficiency weakens muscles and bones, as Su Wen·Shang Gu Tian Zhen Lun states: "Kidney qi decline impairs bones and tendons."

The core pathogenesis is qi-blood stagnation, meridian blockage, and insufficient nourishment of muscles and bones, involving the liver and kidneys.

4.2 Syndrome Differentiation

Common TCM syndromes include:

- Qi stagnation and blood stasis: Severe, fixed lumbar pain (stabbing/distending), worsened by activity; purple tongue with ecchymoses; stringy, astringent pulse.
- Cold-damp obstruction: Cold, heavy lumbar pain, worse in cold, relieved by warmth; pale tongue with white greasy coating; deep, slow pulse.
- Liver-kidney deficiency: Dull, lingering pain with lumbar-knee weakness, worse after exertion; red tongue with little coating or pale tongue; thready or weak pulse.
- Damp-heat downward flow: Rare, with burning lumbar pain, bitter taste, yellow urine; red tongue with yellow greasy coating; slippery, rapid pulse.

5. TCM Treatment Plan for Intervertebral Disc Herniation Syndrome

5.1 Treatment Principles

Guided by syndrome differentiation, treatment focuses on "dredging meridians, regulating qi and blood," with adjustments for excess/deficiency. It aims to relieve symptoms, restore function, and prevent recurrence through holistic care of the liver and kidneys.

5.2 Specific Treatments

1. Herbal medicine
- Qi stagnation and blood stasis: Promote blood circulation with Shentong Zhuyu Decoction (e.g., peach kernel, safflower, Angelica sinensis, Ligusticum chuanxiong).
- Cold-damp obstruction: Warm meridians with Duhuo Jisheng Decoction (e.g., Duhuo [Angelica pubescens], Taxillus chinensis, Eucommia ulmoides).
- Liver-kidney deficiency: Nourish with Liuwei Dihuang Pills (e.g., prepared Rehmannia glutinosa, Cornus officinalis).
- Damp-heat downward flow: Clear heat with Simiao Pills (e.g., Phellodendron chinense, Coix lacryma-jobi).

2. Acupuncture

Main points: Shenshu (BL23), Dachangshu (BL25), Huantiao (GB30), Weizhong (BL40), Yanglingquan (GB34). Supplementary points: Geshu (BL17) for blood stasis; Mingmen (GV4) for cold-dampness. Needling with retention for 20–30 minutes, once/alternate days, 10 sessions as a course.

3. Tuina (massage)

Uses kneading, pressing, and pushing to relax muscles, release adhesions, realign vertebrae, and improve circulation. Skilled practitioners may use manipulation for joint displacement.

4. Moxibustion

Warms meridians with moxa on points like Mingmen (GV4) and Yaoyangguan (GV3) for cold-damp or deficiency syndromes, 15–20 minutes/session.

5. Cupping

Negative pressure promotes circulation and relieves muscle tension via stationary or moving cups on the lower back/legs, 10–15 minutes/session.

6. Exercise therapy

Strengthens lumbar muscles with "small swallow" or "five-point support" exercises to stabilize the spine and prevent recurrence.

5.3 Comprehensive Therapy

Combining herbs, acupuncture, tuina, moxibustion, and exercise yields better results. For example, Shentong Zhuyu Decoction plus acupuncture/tuina for blood stasis; Duhuo Jisheng Decoction with moxibustion/cupping for cold-dampness.

6. Efficacy Evaluation and Precautions

6.1 Efficacy Evaluation

Efficacy is assessed via symptom relief (pain, mobility), functional recovery (spinal range, muscle strength), quality of life, and recurrence rate. Studies show TCM comprehensive therapy effectively alleviates symptoms, improves function, and reduces recurrence.

6.2 Precautions

- Rest during treatment; avoid overexertion, poor posture, and cold exposure.
- Eat lightly; avoid cold, greasy, or spicy foods; limit alcohol/tobacco.
- Severe cases (e.g., bowel/bladder dysfunction, muscle weakness) require prompt surgery.
- TCM therapies must be administered by qualified practitioners in"Formal"settings.

7. Conclusion

Intervertebral disc herniation syndrome, with its complex pathology and recurrence, poses clinical challenges. TCM’s holistic, syndrome-based approach—integrating herbs, acupuncture, tuina, and exercise—effectively relieves symptoms, stabilizes the spine, and improves quality of life. Individualized plans, combining TCM with modern medicine, can further enhance outcomes, offering better solutions for this condition.

References

- Yuanshangrong. Normal Human Anatomy. Hunan Science and Technology Press.
- State Administration of Traditional Chinese Medicine. Criteria for Diagnosis and Efficacy of TCM Syndromes. Nanjing University Press, 1994.
- Zhou Zhongying. TCM Internal Medicine. China Press of Traditional Chinese Medicine, 2003.
- Wang Qicai. Acupuncture Therapy. China Press of Traditional Chinese Medicine, 2003.
- Luo Caigui. Tuina Therapy. China Press of Traditional Chinese Medicine, 2003.