

Comparative Evaluation of Conservative and Surgical Methods of Treatment of Patients with Hernias of the Lumbosacral Spine and the Search for Effective Methods of Rehabilitation

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Abstract Improving the methods of treatment of patients with lumbosacral hernias based on the study and comparative evaluation of conservative and surgical methods with their subsequent rehabilitation. The spine is designed for loads. It supports and stabilizes the body in a standing position, providing complete freedom of movement. When lifting weights, uncomfortable body position, strong and stressful loads, he takes on the main effort. The load is especially pronounced when lifting heavy objects on outstretched arms. The strongest load and, accordingly, wear, falls precisely on the lumbar region. When age-related or pathological changes begin in the body, tissues change their structure and can no longer fully perform the functions of depreciation. Under the influence of force, they can be deformed, crumble, which disrupts the functions of the spine and can disrupt the functioning of the whole organism.

Keywords Surgical treatment, Lumbar disc herniation, Meta-analysis, Non-surgical treatment, Structural view

1. Introduction

At the very beginning of the development of the pathological process, the patient does not feel serious pain, the symptoms are few. The more the tissues protrude, the more the patient feels it.

Pain is the main symptom of a herniated disc. At first, not sharp, it can be aching, pass when changing the position of the body. The more serious the stage of the process, the stronger the pain. Backaches appear, it is painful for the patient to turn the body, the sensations intensify during physical exertion. spinal syndrome. Constant pain causes spasms of the muscles of the lower back. The patient cannot move fully, is forced to tilt the body in order to remove part of the load and reduce pain.

Damage and death of the nerve roots due to constant compression. The compression that occurs due to the protrusion of tissues constantly affects the nerve fibers. From this, the blood flow, their functions are disturbed, and later death occurs altogether. The appearances of such a process

are: weakness, decreased tone, loss of sensitivity, the appearance of body asymmetry, decreased sensitivity and skin tone.

A total of 19 articles reviewed by 2272 participants met the joining criteria. Compared with non-surgical treatment, surgical treatment was more effective in reducing pain (short-term: mean difference = -0.94, 95% confidence interval = -1.87 to -0.00; interval: o' mean difference = -1.59, 95% CI range = -2.24 to -0.94), improved function (interval: mean difference = -7.84, 95% confidence interval = -14.00 to -1.68; long-term: mean difference = -12.21, 95% CI = -23.90 to -0.52) and quality of life. Physical function (short-term: mean difference = 6.25, 95% confidence interval = 0.43-12.08) and body pain (short-term: mean difference = 5.42, 95% confidence interval = 0.40-10, 45) Out of 36 items consisting of a short-term health check were also used. There was no significant difference in adverse events (mean difference = 0.82, 95% confidence interval = 0.28-2.38).

With an athlete's hernia, the posterior wall of the inguinal canal (transverse fascia) is weakened. In some athletes, rupture of the external oblique muscle aponeurosis is also observed. However, the most common finding in 85% of athletes with this syndrome is weakness in the posterior wall

of the inguinal canal [16,20,21]. This pathology may not be observed in all cases; therefore, other pathologies such as enlargement of the outer ring, rupture of articular tendons, and divergence of inguinal ligaments should not be ignored. Clinical examination is important in the interpretation of conditions and pathologies such as osteitis pubis, rupture of the pubis ramus, bursitis, displacement of the pineal gland, acetabular injury, acetabular compression of the femur, and early osteoarthritis [22]. The examination should examine not only the pathology of the hip joint, but also potential damage to the rectus abdominis tendon or adductor long muscle. Pain in the lower and lateral parts of the inguinal ligament may indicate pathology of the hip joint or long joint muscle injury, and pain over the inguinal ligament may indicate pain associated with the athlete's hernia.

Several studies have compared the effectiveness of surgical and conservative treatment of patients with ischia-associated hernia of the lumbar spine, but methodological aspects limit the interpretation of their results. Follow-up cohort studies usually differ in important key prognostic variables in the treatment group, and their results are more prone to confounding. [12-14] Randomized controlled trials (RCTs) are less prone to confounding results. However, when comparing surgery with conservative treatment, the majority of patients randomly assigned to conservative treatment received surgery after randomization or after the initial period of conservative treatment (26–54%). operations, mainly in selected patients. In addition, some investigators question whether patients who wish to participate in surgical RCTs in connection with conservative treatment are typically patient representatives. seen in clinical practice.

Features of a hernia are determined by its location. In this zone, the nerve roots are infringed and a characteristic clinical picture occurs. The nerve pinched during the formation of the lumbar protrusion of the spine runs along the inner surface of the leg from the thigh to the ankle. The pain is not necessarily localized along the entire length, it can be reflected in the leg, foot, buttock, outer side of the thigh. The lower back can also hurt at one point. With the development of the situation, the pain can move lower - to the lower leg, heel and toes. In intensity, it can be a constant aching pain or backache that occurs during movement.

Basically, pain becomes more intense with prolonged walking, standing, turning the body, bending over. It also hurts to lift a leg, do a series of exercises, and also ride in vehicles on rough roads. At the beginning of the development of a hernia, pain can be relieved by lying down, bending one leg at the chest. This will help relieve tension and pressure on the nerve endings. In a more complex situation, this method will not help. Movements are constrained, their amplitude is greatly reduced, the leg gets tired. Basically, the patient feels compression of the spinal cord as tingling, burning, numbness. It dulls the pain. The main symptom that the specialist will pay attention to during examination is muscle tension on the lateral side of the back, painful when pressed.

Athletic hernia is a pain syndrome in the lower abdomen. The reason it is called a sports hernia is because it was originally seen in athletes. However, it can also develop in people who do not exercise. In the last 4 decades, chronic apex pain in athletes has sometimes been described as an athlete's pelvic or groin disease - Gilmore's cola, and this is a recent hernia, groin disease, or whatever leads to chronic groin pain. athletic pubalgia [1]. There is no consensus on this situation, especially in terms of terminology (sports pubalgia, sports hernia, sports hernia, Gilmore's hernia, pubic-inguinal pain syndrome-PIPS, athlete's pelvis, player's pelvic injury complex, hockey player's syndrome, sports hernia); but the difficulty of diagnosis and treatment is accepted [2-4]. All these terminological differences define a well-understood complex of diseases, and general surgeons usually consider it a syndrome that does not require surgical intervention. Therefore, an insufficient number of clinical studies have been conducted [2]. The literature data presented so far on the etiology, pathogenesis, diagnosis and treatment of hernias in athletes are confusing. Many athletes, amateurs or professionals, are more likely to suffer from athlete betting than non-athletes [5]. Chronic groin pain often develops in athletes who twist and hit while running [6]. It is not uncommon for proximal thigh muscles or lower abdominal muscles to be seen in specially or heavily loaded sports branches. A "painful waist" is common in athletes who play football, rugby, Aussie football, cricket, skiing, long-distance or hurdling, and hockey. They are rare in sports such as basketball, tennis, cycling, and swimming because they are not associated with pivoting movements that lead to increased pelvic and joint pain [7,8]. Activity-limiting abdominal and groin pain accounts for 10–13% of all injuries per year among players [9,10]. This review aims to provide up-to-date information on chronic lower abdominal and groin pain, complexity and lack of consensus on treatment, as well as our own clinical experience and practice. Figure 1.

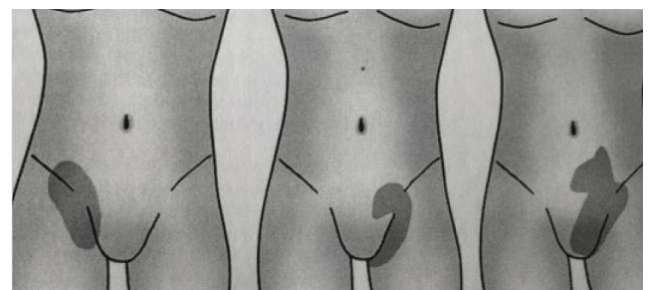


Figure 1. Pain zones in sportsman's hernia

On physical examination, there is often tenderness at the pubic peak during the physical examination. Pain in this area usually occurs when sitting and standing with difficulty. Palpation of the inguinal canal is usually painful on exertion and coughing. In a standing position, a slight bulge can be seen on the surface of the skin. Forced placement of the hip is painful, and the adductor "compression test" is positive in supine and 90-degree hip flexion. With regard to compression of the obturator nerve, it is diagnosed on the

basis of reduced sensitivity and the presence of needle and needle sensation in a characteristic location along the medial surface of the femur [19,25]. Garvey [19], on the other hand, said that the diagnosis of a sports hernia should be based on an evaluation of a combination of the patient's history, physical examination, and imaging studies rather than clinical judgement. Based on our observations and experience, we agree with all of them. In addition, we consider it appropriate to emphasize the importance of applying a multidisciplinary approach to epidermophytosis (orthopedics, physiotherapy, physiotherapy, urology, obstetrics, neurosurgery).

The appointment of therapeutic measures was decided by doctors based on the clinical indications of patients. Surgical treatment was the standard open discectomy described by Delamarter, McCulloch and Spengler, in which the patient was examined under general anesthesia in the knee-chest position using a microscope to examine the damaged nerve root. reflected and inserted into the interstitial space. [24] If necessary, the medial border of the superior facet was removed to provide an unobstructed view of the involved nerve root. Using a small annular incision, a fragment of a disc herniation was removed, the spinal canal was examined, and the presence of disc or bone pathology in the foramen and sulcus was determined.

Conservative treatment included ergonomic instructions, active physical therapy, education/counseling with home exercise instructions, and non-steroidal anti-inflammatory drugs if well tolerated. Patients with insufficient analgesic effect were prescribed additional opioids. For those who did not adequately respond to opioids, epidural infiltration, periradicular infiltration on CT26, and pulsed radiotherapy on CT of the affected nerve root were offered if an adequate response or recurrence did not persist. [27] This was determined if conservative treatment was ineffective. in each case, surgery was presented as an option.

We found no evidence that surgery reduces the severity of sciatica symptoms compared with conservative management or improves quality of life in patients with moderate or long-term lumbar disc herniation. In patients undergoing surgery, pain disappeared faster (known after 3 weeks of follow-up), but the difference between the groups disappeared after 3 months. Patients in the surgical group reported fewer physical impairments at 1 year of follow-up, but not at previous or subsequent evaluations. Surgery to treat neurogenic symptoms or improve quality of life was not more effective during the study.

Rapid improvement in pain symptoms with surgical treatment is common in patients with lumbar disc herniation compared with conservative treatment. Previous follow-up studies have also shown that back pain decreases faster with surgical treatment. In contrast to our results, previous follow-up studies have found benefits of surgical treatment in these outcomes in the short and long term follow-up. The discrepancy between our findings and previous studies may be due to differences in compliance criteria and methods for evaluating outcomes, more effective control interventions,

and a different approach to statistical analysis.

Interestingly, the results of our follow-up cohort in conventional care were more similar to those reported in previous RCTs. clear advantage of surgery over treatment. long-term assessment of neurogenic symptoms, physical function, or quality of life. However, in the classical Weber test15, the positive effects of surgical treatment persisted longer than in other studies; the therapeutic effects of surgical and conservative treatment were similar only after 4 years of follow-up and remained similar up to 10 years of follow-up.

The observability of our survey limits our ability to interpret its results. The results of subsequent clinical trials may be affected by guidance confusion. Patients with a worse initial prognosis are more likely to be referred by doctors for surgery, which indeed took place in our study; patients of the surgical group showed a trend towards worsening neurogenic symptoms at an early stage ($p = 0.098$). However, the methods we used for the statistical analysis allowed us to mimic a randomized controlled experiment. [29] This method of analysis, i.e. the likelihood of weight change, surgery, or conservative treatment, suggests that we rely heavily on prognostic indicators. included in our analysis. Although this assumption may be incorrect in some cases, our results are very similar to previous RCTs. Surgical RCTs are generally criticized for not being generalizable because patients who agree to be randomized in these studies may not be representative of patients seen in clinical practice. The results of this study do not suffer from this limitation because randomization was not performed. In addition, a large proportion of patients dropped out of our study, especially recently, because they lost follow-up. In an attempt to include in our analysis patients who did not have outcome data, we performed several imputations; however, no statistical method can completely solve the problem of lack of data, and it is always better to have observed data than to calculate data for all patients included in the analysis.

Surgical and conservative treatment has demonstrated a long-term positive effect on sciatica symptoms in patients with lumbar disc herniation. Compared with conservative treatment, surgical treatment reduced low back pain faster, but after 3 months there was no significant clinical difference. Surgical treatment may be attractive for patients with debilitating pain symptoms who need immediate relief or do not experience satisfactory improvement with conservative treatment.

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