

TREATMENT OF HERNIATED DISCS AT THE LUMBAR LEVEL, DEPENDING ON THE SURGICAL METHOD OF THEIR REMOVAL

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Abstract

Chronic conditions that very often lead to activity limitations among people of working age. Most studies have found that 60% to 80% of the population in industrialized countries are affected by this disease at some point in their lives (Jennifer L. Kelsey , Ph.D. Anne , L. Golden , 1990; Kuznetsov V.F., 2004). The prevalence of sciatica caused by the formation of a herniated disc is 1%-3% of the total population (Andersson G. B., 1991).

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Relevance problems. Chronic conditions that very often lead to activity limitations among people of working age. Most studies have found that 60% to 80% of the population in industrialized countries are affected by this disease at some point in their lives (Jennifer L. Kelsey , Ph.D. Anne , L. Golden , 1990; Kuznetsov V.F., 2004). The prevalence of sciatica caused by the formation of a herniated disc is 1%-3% of the total population (Andersson G. B., 1991). In the USA, the prevalence of a herniated disc at the lumbar level is 1.6%, in England and Finland 2.2% and 1.2%, respectively (Deyo RA, Tsui-Wu Y., 1987). The incidence of this disease varies in different age groups, with the maximum incidence occurring between 30 and 50 years of age (Heliövaara M., 1988). Among the working population, diseases of the lumbosacral spine account for 10%-14.7% of temporary disability, and at the age of 40-60 years this percentage reaches 14.5-25.7% (Yumashev G.S., Furman M.E., 1984; Shustin V.A., Panyushkin A.I., 1985; Al-Asbahi N.A., Ogleznev K.Ya., 1986; Levoshko L.I., 1993). A number of studies have noted that in patients with sciatica, the time of loss of working capacity is approximately twice as long as in patients with lumbar pain . Among the latter, the average time of disability was 11-20 days per year, while among patients suffering from sciatica, respectively, it was 39-40 days per year (Wood P. H. N., Badley E. M., 1987; Varlotta G. P., Brown M. D., Kelsey J. L. et al ., 1991).

Starting from the pulposus nucleus of the intervertebral disc, spreading to the fibrous ring, and then to other elements of the vertebral motor segment (A. A. Lutsik , 1997). For the diagnosis of GPMD, the most common method is currently MRI and CT. In most studies, the diagnostic accuracy of these methods is estimated from 80 to 90%, including in the case of a combination of disc herniation with concomitant lumbar stenosis (Kent DL, Haynor DR, Larson E.B. et al. al ., 1992). Against the background of modern tomographic research methods, most authors (Kholodov S.A., 2002; F. Postacchini, G. Gualdi, 1999, Musalatov Kh.A., Aganesov A.G., 1998) began to note the low diagnostic value of radiography of the lumbosacral spine in patients with discogenic diseases. The main task of spondylography remains the identification of possible spinal anomalies, the exclusion of infectious-inflammatory and tumor lesions.

Herniated discs are the most common and most severe manifestation of osteochondrosis of the spine. At the same time, radicular pain syndrome develops, which can be accompanied by paresis or paralysis of the muscles of the lower extremities, sensitivity disorders, and impaired pelvic organ function. 19% of patients with herniated discs need surgical treatment. Dystrophic changes in the lumbosacral spine are most pronounced between the ages of 20 and 50 and are one of the most common causes of temporary disability and often disability of the patient. Up to 50% of all surgical interventions in neurosurgical hospitals are performed for disc pathology at the lumbosacral level. The disease occurs as a result of a ruptured intervertebral disc. The herniated spine formed in this case, protruding back and to the side, presses on the nerve root at the point of its exit from the spinal canal and causes inflammation, accompanied by edema. This explains why pain and loss of sensitivity appear only a day after the onset of the disease. The pinched nerve root sends pain impulses to the brain, which are perceived by the patient as if they come from the leg. The part of the nerve located outside the pressure site of the hernia almost ceases to function, which leads to a rapid decrease in sensitivity and the appearance of weakness in the leg. In almost all patients, the main complaint is pain syndrome. As a rule, pain occurs in adolescence after moderate physical exertion, an uncomfortable position in the workplace or in bed. Just as with lumbago, the disease often occurs when bending while turning to the side, often in combination with lifting weights. It is also characterized by sudden, not particularly severe pain in the lower back. Then, during the day, pain and weakness appear in one of the legs, sometimes with loss of sensitivity on the inside of the foot and the lower part of the shin, or on the outside of the foot and the inside of the shin. When moving, coughing, sneezing, or straining, the pain in the back and leg increases and often becomes so intense that the patient needs bed rest. Some relief can be achieved in the prone position by lifting your legs or placing them on a pillow. There are two stages of the disease development. At the first stage, pain occurs in the lumbar region, indicating the beginning of the degenerative-dystrophic process. Under the influence of degenerative changes in the spinal motor segments, the rather complex structure of the fibrous ring changes, radial cracks form in it, which reduces its strength. The nucleus pulposus protrudes, the blood circulation of this zone is disrupted, local tissue edema occurs, hypoxia of the spinal cord root, and the adhesive process. The fibrous ring, posterior longitudinal ligament, dura mater, and intervertebral joints are well innervated by branches of the synovial nerve.

There is a pain syndrome that leads to myofixation of the pathological zone due to the tension of the back muscles and as a result, compensatory curvature of the overlying spine occurs. Thus, a vicious circle is formed. Subsequently, prolonged pathological impulses lead to dystrophic changes in the articular-ligamentous apparatus. And at the second stage, the nature of the pain syndrome changes. Compression radicular syndrome occurs, which is caused by mechanical compression and tension of the spine. In this case, there is swelling of the root, its blood supply is disrupted. When a herniated disc comes into direct contact with the root, chemical irritation causes more intense pain. Often, when radicular pain occurs, pain in the lumbosacral region weakens or disappears. Apparently, this is due to a decrease in intra-disc pressure due to rupture of the fibrous ring. Vertebrogenic pain syndrome can be caused not only by compression of the root (radiculopathy) or spinal cord (myelopathy), but also by the vessel feeding the root - radiculomyeloidemia. The spread and localization of radicular pain generally corresponds to the innervation zone of the compressed root. The pains are more often of a "lamp-like" nature, they can be permanent or intermittent. The L4-L5 and L5-S1 discs are mainly affected. The L3-L4 level suffers only in 2-4% of cases. In addition to pain, sensitivity disorders such as hypesthesia and anesthesia, and sometimes hyperesthesia, can be detected. Vegetative disorders are observed in the form of hypothermia of the skin, their pasty appearance, sweating changes, and dry skin increases. Quite often, patients occupy a forced position. Compensatory postures that reduce the degree of compression and

tension of the spine are manifested by scoliosis, flattening of the lumbar lordosis, restriction of flexion and extension of the trunk, and tension of the long muscles of the back. Sometimes patients cannot straighten their leg due to pain. Motor disorders in the form of paresis or paralysis are rare, they are more typical for advanced cases. Trophic disorders may occur in the form of "weight loss" due to muscle atrophy. In the early stages of the disease, symptoms of irritation are more pronounced, and in the later stages, symptoms of loss of function.

The human body has a powerful ability to self-heal, which also applies to damage to intervertebral discs. This disease usually resolves in 2-3 months with bed rest and rest, which are the best prerequisites for a quick recovery without complications. As with other diseases of the lumbar spine, it is recommended to lie on your back with your legs raised or placed on a pillow, changing your body position and looking for a comfortable, painless position. To relieve severe pain, it is possible to take painkillers, as well as anti-inflammatory medications, although they do not accelerate recovery, they reduce suffering. After 3-4 weeks, the pain usually subsides significantly, but the damage to the disc itself has not yet healed, so in order to avoid possible complications in the form of chronic lower back pain, rest is necessary for another month. Surgical treatment is indicated in the presence of an incurable pain syndrome (the duration of treatment is from 2 weeks to 3 months), an increase in neurological deficit, and horsetail syndrome (impaired pelvic organ function, decreased potency, and perineal numbness). Another method of treating an intervertebral hernia in the acute stage is spinal traction. This is a very old method, and interest in it has been increasing lately. Stretching creates a pressure drop in the intervertebral space, which makes it possible to "suck in" a herniated spine. At the same time, it is necessary to find the right direction of impact and choose the appropriate force so as not to damage the spine even more. Sometimes the patient is recommended to perform the stretching himself, in accordance with the pain. With proper procedure, the pain should decrease, not increase.

Conclusion. For moderate pain or if it is tolerable, bed rest and painkillers are recommended until the condition is relieved or at least for 3-4 weeks. The method of stretching the spine can also be used to quickly relieve pain. If, despite bed rest and drug therapy, they are still unbearable, mechanical stretching can also be a way out. However, if the pain is unbearable, despite repeated stretching and complete rest, surgical intervention is not excluded. After an acute period of illness, therapeutic exercises should be started to strengthen weakened back muscles and restore normal mobility to the spine.

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