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Significance of Syndrome Teetering in Development of Residual Pain Syndrome in Patients Operated for Lumbar Osteochondrosis

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Annotation. It is known that the problems of osteochondrosis of the spine acquire both medico-social and economic importance, since the disease in some cases leads to a decrease in productivity, and sometimes to disability of people of working age. In addition, a decrease in the quality of life, an increase in the incidence and rejuvenation of it from year to year, the lack of effective conservative and surgical methods of treatment, the frequent chronicling of acute root pain syndrome, the development of residual pain syndrome in 30-50% of promptly treated patients testifies to the unsolved problem of pathogenesis and pathogenetic surgical method of treating lumbar osteochondrosis.

Key words: Teetering syndrome, residual radicular pain syndrome, arachnoid cyst, fibrosis in the structures of terminal cistern.

Relevance.

The development of residual pain syndrome in patients operated on for lumbar osteochondrosis shows that the pathomorphological elements of this disease cause pain syndrome by squeezing nerve roots (fibers) or neurovascular formations of the vertebrate and lateral root channels are not sufficiently studied. Since the residual root pain syndrome after surgical treatment of lumbar osteochondrosis develops as a result of the abandonment or partial removal of the pathomorphological elements of lumbar osteochondrosis that compress nerve roots (fibers) or neurovascular formation of the vertebrate and lateral root channels. [1, 3, 6-9, 11-18]. That is, the reason for the development of residual pain syndrome after surgical treatment of lumbar osteochondrosis is the insufficient volume of surgical treatment. This means a thorough study of the pathomorphological elements of lumbar osteochondrosis involved in the formation of the main clinical syndrome - root pain syndrome in the preoperative period allows you to correctly choose an adequate method and scope of the intended surgical treatment. The above shows that determining the causes of the development of residual pain syndrome developing after surgical treatment of lumbar osteochondrosis is an urgent problem of modern medicine.

The aim of the present study was to study the pathomorphological elements of lumbar osteochondrosis leading to the development of residual pain syndrome.

Research materials and methods.

Studies were conducted in 123 (62 men and 61 women) patients re-operated in the neurosurgical department of the Samarkand GMO for residual root pain syndrome developed after surgical treatment of lumbar osteochondrosis. The average age of patients is 46.0 + - 3 years (variation from 30 to 50 years). The average

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duration of the disease is from 6 months to 2 years. All patients were operated on for lumbar osteochondrosis with pronounced root pain syndrome. Determining the intensity of residual root pain syndrome using a visual analogue scale (VAS) showed that after the surgical intervention for lumbar osteochondrosis, the intensity of the existing pain syndrome decreased by only 30% (on average). In 8 (6.5%) patients in the postoperative period, the existing root pain syndrome increased. All patients received prolonged and unsuccessful conservative treatment for residual root pain syndrome.

The criteria for inclusion in the material were:

- presence of residual root pain syndrome after surgical treatment of lumbar osteochondrosis;
- absence of effect from active conservative therapy using epidural administration of hormonal and analgesic preparations;
- established diagnosis: condition after operative treatment of lumbar osteochondrosis with residual root pain syndrome;

Exclusion criteria:

-spinal injuries in history;

- patients previously operated on the lumbar spine due to the volumetric and inflammatory process in the spine;
- presence of severe somatic diseases.

Patients were similar in age, disease duration, and symptomatic severity. Vertebro-neurological diagnosis was performed according to the criteria of H. Hall (17), which included thorough clinical-neurological, functional-spondylographic, computed tomography (CT) and magnetic resonance-tomography (MRI) studies of the lumbar spine. Using functional spondylography, the presence of pathological mobility or functional block in the affected vertebral-motor segment (PDS) was determined. And using multispiral X-ray computed tomography, solid-woven pathomorphological elements of lumbar osteochondrosis were determined. Based on the fact that the MRI study is basic (2,4,5,10) in the study of the pathomorphology of lumbar osteochondrosis, the MRI data of the lumbar spine study are carefully studied in all patients.

Two scales were used to determine the efficacy of the repeated surgical method of treating residual pain syndrome (lumbar osteochondrosis):

1-to determine the intensity of pain syndrome, a specially developed self-assessment scale for back pain was used, using the principle of the visual analogue scale - VAS, it provided for the assessment of spontaneous back pain, spontaneous leg pain, restriction of mobility when tilting forward, restriction of sitting ability, movement, everyday activity. The patient should assess the severity of each of these symptoms, marking it with a dot on a segment of 100 mm, while 0-on this segment corresponded to the absence of a symptom, the opposite end, the maximum possible symptom severity. The total score in this scale was determined by summing the length of 10 segments per mm. and could range from 0 to 1000 (17). 2- general evaluation of medical treatment results - provides for 5-gradations: minus 1-ball - deterioration; 0-balls - no effect; 1-ball - slightly expressed effect; 2-ball - moderate effect; 3-ball - significant effect (7). Evaluation of the effectiveness of the repeated surgical intervention for residual root pain syndrome was carried out by assessing the severity of neurological symptoms before and after the performed surgical intervention. And selection of adequate method and volume of operative treatment of osteochondrosis with root pain syndrome was carried out on the basis of determination of morphological elements of lumbar osteochondrosis causing residual root pain syndrome. Data were collected in a specially designed form. Static treatment was performed using discriminative methods and the ANOVA model. The assessment of the change in measures versus baseline, as well as the comparison of measures between groups, was carried out using a t-test.

Results and discussion.

The results of a clinical neurological study before repeated surgical treatment showed that all patients had lumbo-ishialgic (unilateral) pain syndrome of moderate severity with symptoms of tension of the nerve roots. In 42 (34%) patients, 30 patients after MPA hernia removal with a miniinvasive method, 7 (5.7%) patients were operated on by puncture method and 5 (4.7%) patients after regular laminectomy surgery), the intensity of residual pain syndrome and the severity of nerve root tension symptoms after surgical treatment (VAS) did not decrease. In 57 (46.3%) patients, the intensity of root pain syndrome by VAS and the severity of nerve root tension symptoms decreased by an average of 20%. In 16 (13%) patients, the intensity of root

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pain syndrome by VAS and the severity of nerve root tension symptoms after the first surgical intervention decreased to an average of 30%. And in 8 (6.5%) patients, the intensity of root pain syndrome and the severity of nerve root tension symptoms after the first surgical intervention increased sharply. These patients developed a "forced position" in bed, the slightest movement in the lower limbs or torso led to the appearance of intolerable pain syndrome. That is, these patients developed the phenomenon of demyelination of nerve (roots) fibers due to developed dyscitis.

When performing functional spondylography of the lumbar spine, a functional block phenomenon in one degree or another was found in all patients. And using the MSCT study, all patients showed CT signs of lumbar osteochondrosis in the form of: a decrease in the height of the intervertebral disc, displacement of fragments of the split pulpous nucleus, sclerosis of the closure plates, hypertrophy of the yellow ligament, osteophytis, the phenomenon of arthrosis of the arched joints and MPD. No signs of hernia recurrence of MPD were noted in any. On MR tomograms, in addition to the general signs of lumbar osteochondrosis, arachnoid cysts were also determined in the terminal cistern of the spinal cord in the form of a hyper-intense sickle-shaped shadow, which was determined on the sagittal section of the T2 regime. Arachnoid cyst in the terminal cistern of the spinal cord, as defined in the sagittal T2 section of the MRI regimen, was observed in 97 (79%) patients with residual root pain syndrome. Another MRI trait determined only by MRI examination is "reduction or absence of radiculographic effect" on the facial sections of the T2 regime. The development of this MRI symptom is explained by the fact that normally perineural fat containing a large number of protons of hydrogen (water), enveloping each nerve root protects them from mechanical damage, provides free movement (mobility) of each nerve root and promotes contrast of the roots of the conic tail on MRI. And as a result of the spread of the aseptic inflammatory process from MPD to the structures of the terminal cistern of the spinal cord, perineural adipose tissue is replaced by scar (fibrous) tissue. Due to the development of fibrosis in the terminal cistern of the spinal cord, the image of the roots of the conical tail disappears on the T2 MRI mode, that is, an MRI symptom "lack of radiculographic effect" develops. Reduction or absence of a radiculographic effect on the facial sections of the T2 MRI regimen indicating the presence of fibrotic adhesions between the roots and vessels of the conical tail, between the roots of the conical tail and the hard cerebral membrane - fibrosis in the structure of the terminal cistern of the spinal cord was determined in all patients. It is known that normally the caudal spinal cord and the roots of the horse tail freely "float" in the cerebrospinal fluid in the center of the terminal cistern of the spinal cord. This ensures their mobility and protects them from damage (2,4,5,10). And as a result of the development of cystic formation and fibrous adhesions between the roots and vessels of the horse tail, between the roots of the horse tail and the hard cerebral membrane, the roots and vessels of the horse tail are fixed to the hard cerebral membrane, which in turn leads to the fixation and traction of the caudal spinal cord-tetering syndrome (2.4.5.10). The above shows that tetering syndrome illiquidated during the first surgical treatment of lumbar osteochondrosis is the main cause of the development of residual pain syndrome.

Given that the fibrosis cystic-sticky process and fibrosis in the structures of the terminal cistern of the spinal cord developed due to the aggravation of radiculoischemia and the aseptic autoimmune inflammatory process in the roots and perineural spaces, is the main reason for the development of tetring syndrome (fixation of the roots of the conic tail to the hard cerebral membrane), all patients with residual cortex Intraoperatively, after the excision of the arachnoid cyst, fibrosis adhesions were separated between the roots and vessels of the horse tail, between the roots of the horse tail and the hard cerebral membrane. That is, the existing tetering syndrome was eliminated. Pathomorphological signs of syndrome tethering determined by MRI tomograms performed prior to repeated surgical intervention are confirmed intraoperatively. The intensity of residual pain syndrome after the operation "laminectomy with excision of the arachnoid cyst and carrying out meningoradiculolysis," that is, after the elimination of tetering of the syndrome (equine tail root tension syndrome), in all patients decreased by an average of 93.6% (VAS). Symptoms of nerve root tension regressed immediately after surgical treatment, and residual pain syndrome regressed to 7% during the week.

The general evaluation of the results of surgical treatment by the physician showed that a significant effect (3 points) was observed in 92 (74.8%) patients, a moderate effect (2 points) was observed in 22 (17.9%) patients, and 8 (6.5%) patients had a minor effect (1 point). The absence of an effect (0 points) and deterioration (minus 1 point) was not noted by anyone.

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Rapid regression of residual pain syndrome, rapid regression of nerve root tension symptoms, significant effect (3 balls) in most patients from the operation "laminectomy with excision of the arachnoid cyst and carrying out meningoradiculolysis" once again confirms that often the main reason for the development of residual pain syndrome after operative treatment of lumbar osteochondrosis is tetering syndrome illiqued during The operation "laminectomy with excision of the arachnoid cyst and carrying out meningoradiculolysis" is a pathogenetically justified method of surgical treatment of lumbar osteochondrosis, preventing the development of residual pain syndrome.

Conclusions.

Often, in most patients with lumbar osteochondrosis, the main reason for the development of residual pain syndrome after surgical treatment is the inadequate method and volume of surgery, due to the underestimation of the pathomorphological elements of the disease leading to the development of tetering syndrome. The operation "laminectomy with excision of the arachnodial cyst and carrying out meningoradiculolysis" is considered a pathogenetically justified method of treating tethering syndrome in patients with lumbar osteochondrosis.

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