



Surgical Treatment of Intervertebral Hernias

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ABSTRACT

The paper analyzes the manifestations of lumbar intervertebral hernias in 426 patients undergoing surgical treatment for this reason. The main determining indication for the operation was a pronounced radicular pain syndrome. Some sexual and age-related features of localization and clinical manifestations of lumbar hernias were revealed, as well as a fairly frequent combination of the latter with the phenomena of instability of the corresponding vertebral-motor segment (PDS) - in almost a third of patients with discradicular conflict. The operation of choice for this pathology is the intervertebral microsurgical removal of a herniated disc.

Keywords:

Lumbar Intervertebral Hernias, Mini Access, Interlaminar Access, Arcotomy, Spinal-Motor Segment, Surgical Removal Of Intervertebral Hernias.

The purpose of this work was to analyze clinical manifestations and to develop, based on the analysis of optimal indications and tactics of surgical treatment of patients with lumbar intervertebral hernias.

It is known that most patients with manifestations of intervertebral lumbar hernias are treated with conservative methods, however, surgical intervention is required in stages III and IV of intervertebral hernias. In the neurosurgical department of the Andijan branch of the RNCMP from 2016 to 2019, 724 patients were treated for radicular syndromes of lumbar osteochondrosis. Of this number, 426 patients (58.8%) were operated on in the neurosurgical department.

A slight predominance of male patients (55.3%) and women (44.7%) was revealed. Among them, the age distribution was dominated by patients 30-49 years old — 64.9%. The average age of operated men was 44.5 years, women — 41.2 years.

In all patients with lumbar intervertebral hernias who underwent surgery, radicular pain syndrome prevailed in the clinical picture. We assessed the intensity of pain on a visual-analog scale (VAS-100%). The intensity of pain at the time of admission of patients ranged from 30 to 100% and averaged 67.4%. Moreover, severe pain syndrome (90-100%) was observed in 9.2% of patients (among them there were 2 times more men than women).

In 58.3% of patients, in addition to radicular pain, pain in the lumbar region was recorded. At the same time, 27.7% of patients had lumbar pain with signs of instability in the lumbar spine. Somewhat more often, instability in the lumbar region was noted among women — 33.3% of cases against 23.1% in men.

Sensitivity disorders were reported in 92.4% of patients. A decrease in strength in the indicator muscles was noted in 47.2% (a decrease in strength was also accompanied by a decrease or loss of corresponding reflexes).

Caudomedullary syndrome was noted in 2.1% of patients in the study group. Among these patients, women clearly prevailed — 3 patients out of 4 patients with the noted syndrome.

The duration of the last exacerbation (incessant, effectively non-relieved radicular pain) in the study group ranged from 2 weeks to 5 months. On average, the duration of the last exacerbation was 5.4 weeks. The total experience of clinical manifestations of lumbar osteochondrosis ranged from 3 months to 15 years and averaged 3.6 years.

Recurrent hernias occurred in 6.9% of operated patients.

Regarding the localization of lumbar intervertebral hernias, according to our data, 43.1% of patients had hernias at the L4-L5 level; 46.3% of patients had L5-S1 hernias; 5.3% had L3—L4 hernias; 0.5% had L1-L2 hernias and 0.5% of patients had L2—L3 hernias.. With respect to the location of hernias, the distribution in the study group was as follows: the median direction of herniated discs was noted in 4.9% of patients with L4-L5 lesion and in 8.0% of patients with L5-S1. Right-sided or left-sided lateralization of hernias at the L4-L5 level is noted almost equally often. And among patients with a lesion level of L5-S1, left-sided hernias were detected in 58.6% of cases against 33.3% of patients with right-sided lateralization. Thus, in patients with the lesion level of L5-S1, lateralization to the left is somewhat more common. We did not note significant gender and age differences in the frequency of hernias at various levels and the frequency of lateralization.

Foraminal localization of lumbar intervertebral hernias was registered by us in 6.9% of patients.

For neuroimaging in all patients, a Siemens Magnetom C MR tomograph equipped with a C-shaped low-floor 0.35-tesla magnet was used. Naturally, objective signs of intervertebral hernias were obtained on MRI in all operated patients of the study group. 57.4% of patients had 2 or more herniated discs. At the same time, hernias of polysegmental localization, which were clinically manifested simultaneously, were noted only in 3.7% of

patients. The sizes of intervertebral lumbar hernias, according to MRI data, ranged from 7 to 12 mm among the operated patients. The average hernia size in those undergoing surgical treatment was 7.8 mm.

When removing lumbar intervertebral hernias, the intervertebral (interlaminar) and arcotomic access using an operating microscope was used. Intervertebral microsurgical hernia removal was performed in 283 patients (66.5% of all lumbar intervertebral hernia removals). The distribution by levels was as follows: L5-S1 — 60% of cases, L4-L5 — 55% of cases, L3-L4 — 5.6% of cases, L1-L2 — 1.6% of cases and at the L2-L3 level — 0.8% of cases. In the remaining 143 cases, the scope of the operation was expanded.

Intervention at two levels was performed at once in 16 patients (3.7% of the total number of operated). Of these, 8 patients underwent microsurgical hernia removal.

We resorted to expanding access for hernia removal before hemilaminectomy in 11 patients (2.6% of the total number of operated patients): 8 patients had hemilaminectomy of the L5 arch and three patients had L4 arch.

In 12 patients, the hernia removal operation was supplemented with radiculolysis (2.8% of the total number of operated patients). Most often, radiculolysis L5 was required.

Conclusions

1. The main indication for surgery in patients with lumbar intervertebral hernias accompanied by discoradicular conflict should be considered a pronounced and non-relieving radicular pain syndrome. The optimal period for evaluating the effectiveness of conservative treatment of pain radicular syndrome should be considered 5 weeks.

2. More intense pain syndrome in the case of discoradicular conflict with lumbar osteochondrosis is more common in men.

3. The operation of choice should be microsurgical intervertebral hernia removal.

4. In the presence of radiculomyeloischemic symptoms in patients with lumbar intervertebral hernias, the operation of disc herniation removal should be performed as soon as possible.

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