

## **CERVICAL ISCHEMIC MYELOPATHY**

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Myelopathy (Greek myelos bone marrow, spinal cord + pathos suffering, disease) non-inflammatory, degenerative lesions of the spinal cord of various etiologies.

Allocate vertebrogenic, atherosclerotic, carcinomatous, post-traumatic, metabolic, post-radiation myelopathy.

An increasing number of patients seeking help from a doctor complaining of a significant decrease in the quality of life due to acquired changes in the structure of the spine and the neural elements included in it, is a characteristic sign of our time.

**Purpose of the study**: to study the features of the course of spondylogenic cervical ischemic myelopathy (CIM).

**Materials and Methods**: Of the 55 examined patients, 32 were diagnosed with spondylogenic CIM. The disease most often developed in persons aged 40 to 60 years (in 62.5% of patients). The average age for patients with spondylogenic CIM at the time of examination was 50.7 years. It should be noted that in almost half of the patients the symptoms of myelopathy appeared before the age of fifty.

**Results and discussion**. The clinical signs that most likely allowed the diagnosis of spondylogenic CIM were the following: a slow increase in weakness, first in the arms and then in the legs; accession of light hypotrophy, mainly distal parts of the hands; slight violations of superficial types of sensitivity of the segmental or conduction type; the predominance of phenomena of pyramidal insufficiency in the lower extremities, and such asymmetry of neurological symptoms. These data correspond to those given in the literature when describing a typical NIM clinic (German D.G., Skoromets A.A., 1981; Makarov A.Yu. et al., 1991; Montgoroery et al., 1992 and others).

Movement disorders were leading in neurological symptoms in patients with spondylogenic CIM. At the same time, in most of them they were represented by mixed upper and lower spastic paraparesis. In this group of patients with spastic-amyotrophic syndrome (ALS syndrome), patients with moderate and severe motor disorders predominated. In 40% of patients with ALS syndrome, a certain staging in the development of paresis was noted. In these cases, in addition to the initially spastic para- or tetraparesis, as the disease progressed, malnutrition on





the upper limbs (more often in the distal section) joined, and the paresis acquired a mixed character.

Spastic (22%) and amyotrophic (14%) syndromes were less common, while it was noted that motor disorders in these patients in most cases did not exceed a mild degree (respectively, in 55 and 75% of patients).



When studying the features of the course of spondylogenic CIM, we identified three options for its development: 1) slowly progressing with periods of a faster increase in symptoms - in 39% of patients, 2) gradual slow progression - in 31% of patients, 3) an initial rapid increase in symptoms followed by a slowdown in the rate of its development - in 30% of patients.



As can be seen, patients with a progressive course of the disease prevailed, however, the rate of increase in symptoms was different. Previously, attempts were made to explain the features of the course of CIM based on its neurological

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manifestations or by clinical and radiological comparisons, however, the data obtained were very contradictory (Leykiny.B., 1990; Gribova N.P., 1993; ,.). The use of MRI in our study in combination with traditional methods of clinical and radiological examination. allowed a deeper study of the mechanisms of occurrence and development of CIM in the examined patients.

Hernias and prolapses of the intervertebral discs into the lumen of the spinal canal were detected in 98.4% of patients with spondylogenic CIM. Multiple protrusions of meudozvonal discs were determined in 73.4% of patients. Most often they were localized in the C5-C6 and C6-C7 segments of the spine.

The results of neurological analysis and MRI data made it possible to distinguish two groups of patients with spondylogenic IS: 1) with compression of the spinal cord by herniation (hernias) of the intervertebral discs, 2) without compression due to disc prolapse.

The first group included 24 (78.1%) patients. Of these, 9 had severe spinal cord compression, 6 had moderate compression, and 9 had mild compression. At the same time, in 8 cases, compression was determined at the level of two herniated disc protrusions.

The spinal cord in 44.75% of patients was compressed at the level of the C5-C6 disc, in 22.4% - at the level of C6-C7. in 20.8% - at the level of C4-C5, in 12.1% - herniated disc C3-C4. The highest frequency of spinal cord compression within the C5-C6, C6-C, and C4-C5 segments is explained by the smallest sizes of the spinal canal and reserve spaces of the spinal cord at this level (Limansky Yu.P., Macheret E.L., 1988), and also a high incidence of herniated discs in these segments of the spine.



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Neurological symptoms in 18 patients were represented by spastic-amyotrophic syndrome, in 4 - spastic and in 3 - amyotrophic. When comparing the degree of spinal cord compression with the form of the clinical syndrome of cervical myelopathy, no significant relationship was found , although in all five patients with amyotrophic paresis, spinal cord compression was minimal. Among patients with spastic and spastic-amyotrophic syndrome, there were equally patients with both significant and less pronounced spinal cord compression.

A correlation relationship was found between the degree of spinal cord compression and the severity of neurological deficit, primarily motor disorders. Thus, in all patients with severe and moderate compression of the spinal cord according to MRT, the severity of motor disorders was significant and in no case was assessed as mild.

The rate of increase in neurological symptoms also depended on the degree of spinal cord compression. It was greatest in patients with severe compression (9 people) - all of them had severe or moderate motor disorders, which in the vast majority developed during the first year of the disease. The course of myelopathy was characterized by steady progression. In patients with mild spinal cord compression (9 people), the severity of movement disorders in 4 (47.5%) cases did not exceed a mild degree, and in 4 (47.6) cases they were moderately pronounced. In one case, when the duration of the disease was more than 10 years, paresis reached a pronounced degree. Moderate movement disorders in this group of patients developed on average over 5 years. Periods of a slow increase in symptoms were followed by a relatively stable course of the disease. The second group of patients, in whom the development of CIM was not accompanied by compression of the spinal cord by disc herniation, consisted of 7 (21.9%) patients. In all, except for one, MRT revealed prolapses of intervertebral discosis, which led to narrowing of the spinal canal. In six cases hernial protrusions were multiple (two had 2 discs and four had 3 discs).

Patients with mild movement disorders (6 people) predominated among the patients. In 3 it was lower spastic paraparesis, in 2 upper flaccid distal paraparesis and in 2 paresis of the upper extremities were of a mixed nature, while the symptoms of pyramidal insufficiency were determined on the lower extremities.

The absence of direct compression injury to the spinal cord, according to MRI, was reflected in the insignificant severity of neurological disorders and their slower rate of increase. Thus, the average duration of the disease in this group was 3.5 years.

In our study, it was shown that pathological protrusions of the intervertebral discs (protrusions, prolapses, hernias) most often lead to narrowing of the spinal canal, which are most effectively detected using MRT. At the same time, along with discogenic compression of the spinal cord, posterior osteophytes (in 67.2% of patients), instability

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of the spinal segments (in 29%), and congenital narrowness of the spinal canal (in 12.5% of patients) had significant pathogenetic significance.



In isolated cases, there were ossification of the posterior longitudinal ligament (POLL), bone developmental anomalies in the cervical spine (concretion of the vertebral bodies, non-closure of the arch). It was noted that in patients who had a combination of the above changes detected by MRT and radiography, the course of myelopathy was more progressive and motor disorders reached a more pronounced degree earlier. In patients without compression of the spinal cord by herniated discs, their presence and combination with other spondylogenic factors led to the occurrence of acquired (degenerative) stenosis of the spinal canal (Kuznetsov VF, 1992). Under these conditions, dynamic compression of the spinal cord during flexion or extension of the spine was the cause of chronic impairment of spinal circulation at the cervical level. Thus, the occurrence and development of spondylogenic PWM is due to a whole complex of pathological changes in the spine, while the clinical picture of the disease reflects both their different combination and severity. The combined use of MRI and radiography (with functional tests) allows them to be more fully identified and evaluated.

## **USED LITERTURE :**

1. German D.G., Skoromets A.A., 1981; Makarov A.Yu. et al., 1991; Montgoroery et al.,

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- 2. Kuznetsov VF, 1992
- 3. Limansky Yu.P., Macheret E.L., 1988
- 4. Leykiny.B., 1990; Gribova N.P. 1993;

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