



# Clinical Manifestations of Lumbar Osteochondrosis and Stenosis of the Lumbar Spinal Canal

*N. T. Botirov, K. Kh. Mamadzhonov, B. M. Isakov, O. N. Abdulazizov, F. R. Jalilov*

*Andijan State Medical Institute, Uzbekistan*

**Abstract:** *Spinal stenosis as the leading cause of vertebrogenic neurological disorders remains poorly understood. Mostly there are works devoted to the diagnosis and treatment of cervical vertebrogenic myelopathy caused by a narrow spinal canal. Some clinicians and practitioners pay attention to stenosis of the lumbar spinal canal (1-3). Most aspects of this problem are not well understood.*

**Keywords:** *Lumbar, Osteochondrosis.*

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## Introduction

The clinic of stenosis of the lumbar spinal canal (LSS) is similar to many diseases of the spine, and in particular to lumbar osteochondrosis. This explains the lack of effectiveness of conservative and surgical treatment of lumbar osteochondrosis, since the known methods of treatment do not adequately restore the dimensions of the spinal canal and do not provide adequate decompression of the roots. For differential diagnosis, a more detailed study of the clinic of SPOK and degenerative diseases of the spine is necessary.

## Materials and methods

We examined 152 patients treated in the departments of neurosurgery and neurology of the clinic of the Andes MI for the period from 2010 to 2015. All patients were divided into 2 groups:

(92 patients) and stenosis of the lumbar spine (60). The patients' age ranged from 20 to 67 years.

The role of individual symptoms, signs and their combinations for the differential diagnosis of osteochondrosis and SPOK has been studied.

## Results and discussion

In lumbar osteochondrosis, pain with a clear localization prevails ( $70 \pm 2.4\%$  of the total number of patients with pain syndrome). In  $85 \pm 1.9\%$  of cases these pains radiate only to one leg, and in  $12.9 \pm 1.8\%$  they do not radiate at all. Irradiation of pain in this pathological form in both legs or in the leg and buttock is noted quite rarely ( $2.1 \pm 0.7\%$  of cases). The pains are often dull, aching, with attacks of lumbago ( $60 \pm 2.6\%$  of patients).

In most patients, pain in the lumbar spine increased with sudden movements, prolonged standing, sitting, physical activity. In  $49 \pm 2.7\%$  of patients, the lower back intensified when trying to unbend or straighten the back from the flexion position. In  $82 \pm 2\%$  of these patients, when trying to bend the back from a position with a straightened lordosis, the pain intensified.

In almost all patients, warmth and a horizontal position contributed to the reduction of pain. Most patients had static disorders: smoothness of the lumbar lordosis ( $72\pm1.8\%$ ) and limitation of spinal mobility ( $84\pm1.5\%$ ). Quite often there was a symptom of a cough shock and antalgic scoliosis ( $61\pm2\%$ ). Tension symptoms were also noted in  $92.1\pm1.1\%$  of patients. These patients could not reach the floor with their hands in a leaning position.

In the isolated form of SOPK, the pain syndrome is well expressed in  $88.2\pm4.6\%$  of patients. In 75% of cases, the localization of pain is unclear with predominant alternating irradiation to both legs or to the leg and buttock. More often these pains are arthritic in nature ( $71.1\pm6.4\%$ ). Dull aching pains with attacks of lumbago occur rarely ( $20.0\pm5.6\%$  of cases).

In most patients, lumbar pain intensified with sudden movements, prolonged standing, sitting, and physical exertion. An attempt to straighten the back was accompanied by an increase in pain in  $88.9\pm4.4\%$  of the examined, an attempt to bend the straightened back - 54.2%. The pains were relieved by heat and by lying down. In  $93.0\pm3.6\%$  of patients, an exacerbation was noted once a year or more often. Among the signs of static disorders, spinal mobility restrictions prevailed ( $76.5\pm6.1\%$ ). Smoothness of the lumbar spine was observed relatively rarely (25% of cases).

Lasegue's symptom was found in  $51.0\pm7.0\%$  of cases. Other symptoms of tension were detected less frequently, since with this form of spinal pathology, patients are easier; with this form of spinal pathology, patients bend their back more easily and better reach the floor with their hands from a tilted position.

Intermittent claudication, one of the most pronounced characteristic symptoms, was observed in  $92.1\pm3.8\%$  of patients.

As evidenced by a multivariate analysis of symptoms and signs of lumbar osteochondrosis and lumbar stenosis, lumbosacral osteochondrosis or an isolated form of stenosis predominates. There is a high probability of a combination of both pathological forms.

Multivariate analysis of symptoms and signs of osteochondrosis and POTS can be used for accurate differential diagnosis, as well as for screening examinations to identify clinical risk groups.

Thus, based on a study using multivariate analysis, we made an attempt to differentiate diseases of the lumbar spine, such as osteochondrosis, stenosis of the lumbar spine, stenosis in combination with osteochondrosis. Many symptoms are found in all of these pathologies.

The leading symptoms and signs that are of great importance in the diagnosis of SOPK are neurogenic intermittent claudication, pain in the lumbar region with variable irradiation to both legs, increased pain during back extension, indistinct localization of pain in the lumbar region, arthritis-like pain. A characteristic violation of statics is the posture of a monkey (constant stoop).

With lumbar osteochondrosis, all of the listed symptoms are also noted, but less often.

The leading symptoms and signs of lumbar osteochondrosis are lumbar pain with a clear localization, dull aching pain with bouts of lumbago, pain radiating when trying to bend from a standing position, lordosis straightening, static disturbance in the form of an antalgic posture, a positive symptom of a cough impulse. These symptoms and signs are also observed in POTS. However, their presence indicates lumbar osteochondrosis or a mixed nature of the disease.

Thus, the conducted studies convincingly indicate the feasibility of a multivariate analysis of clinical symptoms for the diagnosis of SOPK and lumbar osteochondrosis or combined forms of these diseases.

### **Conclusions**

1. Diagnostic criteria for clinical manifestations of lumbar osteochondrosis and stenosis of the lumbar spinal canal have been established.
2. Multivariate analysis of symptoms and signs of osteochondrosis and stenosis of the lumbar spinal canal can be used for accurate differential diagnosis.

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